CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

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VOL. XIII.

OF THE THIRD SERIES;

(Or Vol. LXXXIII. of the Whole Work.)



"The God of seasons, whose pervading power
Controls the sun, or sheds the fleecy shower,
He bids each flower his quickening word obey;
Or to each lingering bloom enjoins delay."—*White.*

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1857.


SHOUT
SHARE
IT



JOHN EDWARD TAYLOR, PRINTER,
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TO

F. T. MACKAY, ESQ., LL.D.,

M.R.I.A., A.L.S., ETC. ETC.,

THE VETERAN BOTANIST OF IRELAND,

AUTHOR OF A 'FLORA HIBERNICA,' AND EMINENT FOR HIS HORTICULTURAL KNOWLEDGE,

The Present Volume is Dedicated

BY HIS AFFECTIONATE FRIEND,

THE AUTHOR.

Royal Gardens, Kew,
December 1, 1857.

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W.Fitch del. et lith.

Vincent Brooks Imp

Tab. 4958.

PASSIFLORA tinifolia.

Laurestine-leaved Passion-flower.

Nat. Ord. Passifloreæ.—Monadelphia Pentandria.

Gen. Char. (*Vide supra*, Tab. 4406).

Passiflora (§ Granadilla) *tinifolia ;* foliis oblongis brevi-acuminatis integerrimis basi obtusis, petiolis brevibus infra apicem biglandulosis, stipulis lineari-subulatis, bracteis amplis ovalibus apice pauci-crenatis dentibus glanduligeris, coronæ filamentis calycem æquantibus.

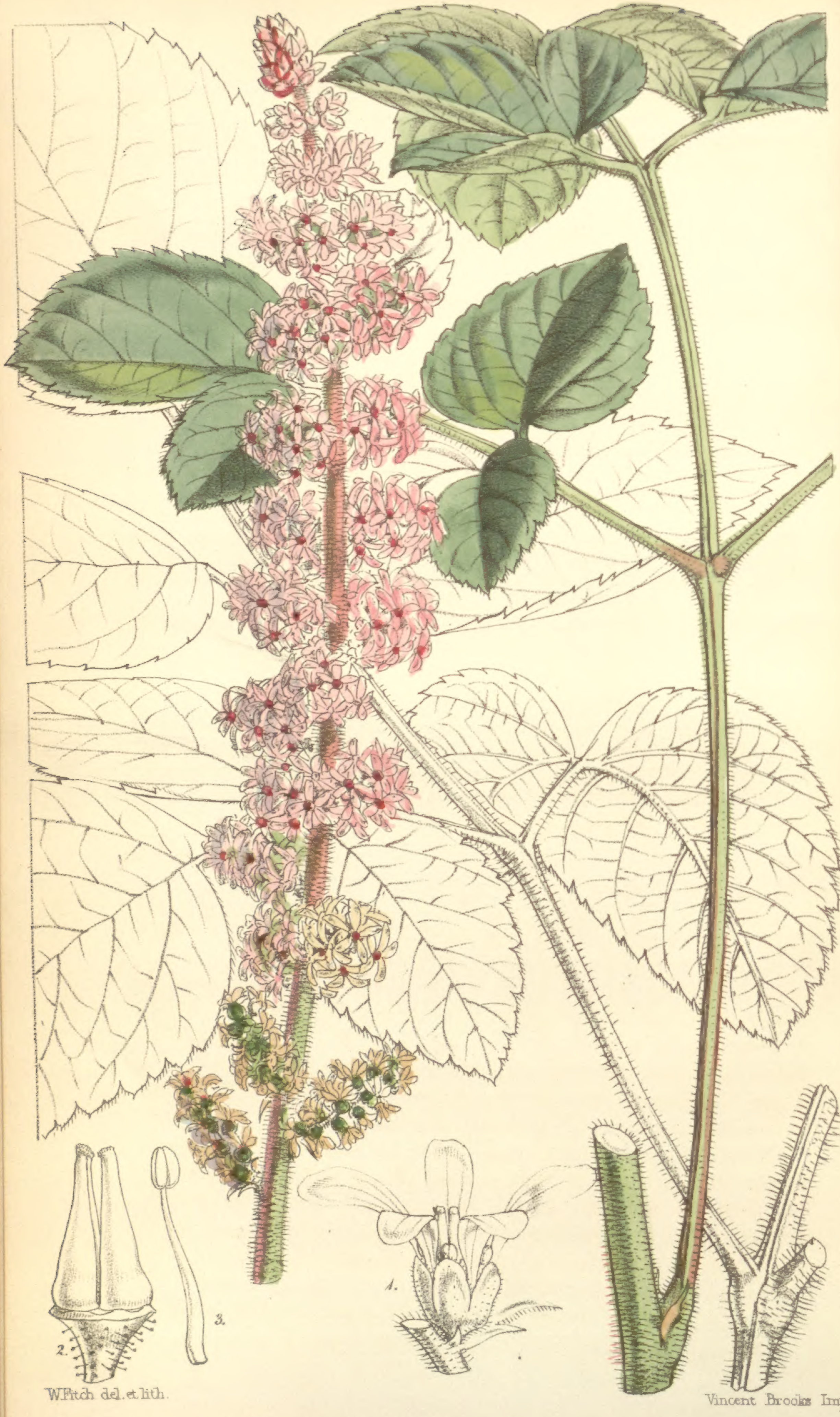
Passiflora tinifolia. *Juss. Ann. Mus. v.* 6. *p.* 113. *t.* 41. *f.* 2. *De Cand. Prodr. v.* 3. *p.* 328. *Spreng. Syst. Veget. v.* 3. *p.* 36.

A rare and very little known species of *Passion-flower*, of the group or section called "*Granadilla*" of De Cand. Mem.: that is, having a triphyllous involucre beneath the flower, whose leaflets are entire or toothed, not laciniated; the calyx ten-lobed; the pedicels single-flowered, and with simple cirrhi arising from the same axils with the flowers. This group contains the eatable kinds of *Passiflora*. Jussieu's figure and description were made from Richard's dried specimens gathered in French Guiana. We knew not of any other locality, till our friend Charles S. Parker of Liverpool sent us living specimens, derived from Demerara, in July of the past year, 1856. It is a species of considerable beauty, and the fruit, described as "globose, yellow, of the size of an apricot," is probably as esculent and well-flavoured as that of the other edible species, especially of the *P. laurifolia*, L., its nearest ally; which however differs from our plant in its shorter and, at the base, more heart-shaped leaves, stipules which are truncated obliquely at the apex; in the two glands of the petiole being placed nearer the leaf; in the large, oval, more crenulated leaflets of the involucre, which are equal in length with the calyx, of which the segments do not exceed in length the longest filaments of the corona. It is a plant of easy cultivation in a moist stove.

Descr. *Stem* climbing, the *branches* terete, glabrous, tinged

with purple on one side. *Leaves* about four inches long, alternate, distant, oblong or subelliptical, quite undivided and entire at the margin, subcoriaceous, the base obtuse, the apex shortly acuminated; penniveined, the veins connected by slender veinlets. *Petiole* short, about half an inch long, bearing below the apex two prominent *glands*. *Stipules* two, linear-subulate, herbaceous. *Peduncle* about an inch long, solitary, axillary, single-flowered, having a little below the flower three large erect *bracts* or *leaflets*, of an oval shape, membranaceous, green, erect, faintly and distantly striated, crenato-dentate at the apex; teeth few, distant, each bearing a conspicuous *gland;* these three constitute the *involucre*, which is about half the length of the flower. *Sepals* narrow-oblong, greenish-white without, red within. *Corona* consisting of a double *ray; exterior* of several filaments half the length of the interior, purple, barred with white at the base, and white at the subcapitate apex; *inner* row of numerous, equal, thickened but compressed filaments, barred with white and red at the base, and white-purple and white in the upper half; the apex dilated and toothed: there is an innermost circle or ring, which is tuberculated, and which would be considered by some as a third ray. *Column*, *stamens*, and *styles* and *stigmas* as in the genus.

Fig. 1. Section of a portion of the flower, showing the nature of the *corona filamentosa* :—*magnified.*



W.Fitch del. et lith.

Vincent Brooks Imp.

Tab. 4959.

ASTILBE RUBRA.

The Red-flowered Astilbe.

Nat. Ord. Saxifrageæ.—Decandria Digynia.

Gen. Char. Calyx tubo brevi sublibero, limbi 4–5-partiti lobis æstivatione imbricatis. *Petala* 4–5 v. 0, perigyna, lineari-spathulata, integra. *Stamina* 8–10, cum petalis inserta; *filamentis* linearibus; *antheris* oblongo-cordatis. *Ovaria* 2, ima basi calycis adnata, libera v. subconnata, unilocularia; *ovulis* plurimis placentis suturæ ventrali adnatis, biserialibus; *stylis* brevibus; *stigmatibus* simplicibus. *Capsulæ* 2, folliculares, erectæ, liberæ, coriaceæ; *rima* ventrali dehiscentes. *Semina* plurima v. pauca, lineari-oblonga; *testa* membranacea, reticulata, utrinque longe ultra nucleum producta; *embryone* axi albuminis carnosi orthotropo, cylindrico.—Herbæ Boreali-Americanæ, Japonicæ, *et montibus* Indiæ borealis *incolæ;* rhizomate *perenni;* caulibus *erectis, simplicibus v. ramosis;* foliis *bi-tri-ternatis;* floribus *in spicas racemosas dispositis, albis luteis rubrisve. Endl.*

Astilbe *rubra;* caule foliisque parce pilosis, foliis biternatis, foliolis cordatis acuminatis argute triplicato-serratis, paniculæ contractæ rufo-villosæ ramis erectis, floribus ramulis lateralibus brevibus dense congestis breve pedicellatis, petalis rubris lineari-spathulatis anguste linearibusve.

Astilbe rubra. *Hook. fil. et Thomson, Fl. Ind. ined.*

A very pretty and hardy plant, with the habit and appearance of a *Spiræa.* It was originally detected in the Khasia mountains of Eastern Bengal by Dr. Griffith, and gathered afterwards in the same mountains by Drs. Hooker and Thomson, who found it flowering in the month of June at an elevation of 5000 to 6000 feet above the sea, and by whom seeds were sent to the Royal Gardens of Kew, where it proves quite hardy, flowering in the late summer and autumnal months.

Descr. *Rhizome* horizontal, about as thick as the thumb, giving off numerous fibrous roots. *Stems* simple, four to six feet high, covered, as are the petioles, with long, lax, patent, flexuous hairs; on the branches of the inflorescence these hairs are much more dense and copious, and turn of a fine rufous-brown in drying. *Leaves* biternate, with adnate, half-sheathing stipules; *leaflets* one to two inches long, oblique, cordate, sharply

triplicate-serrate, with long acuminato-serrate points. *Panicle* robust, its main branches erect; the ultimate ones spreading, about one inch long, densely covered with red flowers. *Flowers* shortly pedicelled, bracteate at the base of the pedicels. *Calyx* erect, with a short obconic tube and five blunt, glandular, pubescent lobes. *Petals* five, narrow, very much longer than the calyx. *Stamens* ten, shorter than the petals. *Ovaries* two, erect, ripening into erect, coriaceous follicles, which split down the ventral suture, and discharge the linear minute *seeds*.—*J. D. H.*

Fig. 1. Flower, bract, and part of peduncle. 2. Apex of peduncle and ovaries. 3. Stamen:—*all magnified.*

W.Fitch del.et lith.

Vincent Brooks Imp.

Tab. 4960.

LOBELIA SPLENDENS: *var.* IGNEA.

Shining Lobelia: blood-red-leaved var.

Nat. Ord. Lobeliaceæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-lobus; *tubo* obconico, ovoideo vel hemisphærico. *Corolla* superne longitudinaliter fissa, bilabiata; *tubo* cylindraceo vel infundibuliformi recto; *labio* superiore sæpius minore et erecto, inferiore sæpius patente latiore 3-fido vel rarius 3-dentato. *Antheræ* 2 inferiores vel rarius omnes apice barbatæ. *Ovarium* inferum vel semisuperum, imo (in speciebus simillimis) subliberum.—Herbæ *vel rarius* suffrutices, foliis *alternis*, floribus *sæpius racemoso-spicatis*, pedicellis *axillaribus*, corolla *cærulea*, *alba*, *violacea*, *rubra vel ex rubro aurea*. *De Cand.*

Lobelia (§ Rapuntium) *splendens;* glabra, caule erecto simplici, foliis sessilibus lanceolatis acuminatis denticulatis, racemo terminali, bracteis lanceolatis acuminatis dentatis pedicello sublongioribus, tubo calycis hemisphærico, lobis linearibus acuminatis tubo corollæ glabræ subæqualibus, antheris dorso glabris inferioribus 2 apice barbatis.

1. foliis viridibus.

Lobelia splendens. *Willd. Hort. Ber. t.* 86. *H.B.K. Nov. Gen. Am. v.* 3. *p.* 311.

2. foliis maculatis.

Lindl. Bot. Reg. t. 60. *De Cand. Prodr. v.* 7. *p.* 382.

3. foliis omnibus atro-sanguineis.

Lobelia ignea. *Paxt. Mag. of Bot. v.* 6. *t.* 247 (*Tab. Nostr.* 4960, *and Tab. Nostr.* 4002).

Rapuntium splendens. *Presl, Prodr. Mon. Lob. p.* 26.

This species was first known in Europe through the Berlin Garden, where seeds were sent by the distinguished travellers, Humboldt and Bonpland, from Mexico, and was published by Willdenow in his 'Hortus Berolinensis.' Upwards of forty years ago it was introduced to our English gardens from Paris, and published by Dr. Lindley in the 'Botanical Register,' above quoted. It appears to have been lost to our gardens for a long season, and has, comparatively recently, appeared again under another name, viz. that of *L. ignea* of Paxton, in his 'Magazine of Botany.' It is, indeed, though a truly distinct species, subject to some variation in the colour and marking of the foliage: green in Willdenow's figure; spotted and blotched, with

dark purple, in Lindley's plant; in Paxton's and that now under consideration (and we fear we must add our plant given at Tab. 4002), the leaves are throughout atro-sanguineous. Although formerly treated as a greenhouse plant, it has since proved perfectly hardy; is easily increased by dividing its perennial roots, which are somewhat stoloniferous, and it is a truly splendid ornament to our flower-beds.

Descr. *Root* perennial. *Stems* herbaceous, erect, two to three feet high, firm, moderately stout, furrowed, dark reddish-purple, glabrous, as is every part of the plant, and shining. *Leaves* lanceolate, acuminate, sessile, serrated; lower ones subspathulate, a span and more long, gradually becoming smaller and more tapering towards the upper part of the plant, and among the flowers passing gradually into *bracteas*: all of a singularly dark, atro-sanguineous colour, like that of some kinds of beet. *Raceme* terminal, elongated, leafy, very handsome, from the large, numerous, brilliant, scarlet *flowers*. *Pedicels* solitary from the axils of the superior leaves or bracteas, blood-red, as is the *calyx*, of which the *tube* is short, hemispherical, furrowed: the *lobes* subulate, erect, as long as the tube of the corolla, and appressed to it. *Corolla* with its upper lip of two, linear-lanceolate, erect segments: lower very large, of three, spreading, ovate lobes.

Fig. 1. Lower leaf:—*nat. size.* 2. Flower deprived of the corolla:—*magnified.*



W.Fitch del et lith.

Vincent Brooks Imp.

Tab. 4961.

SEAFORTHIA elegans.

Elegant Seaforthia.

Nat. Ord. Palmæ.—Monœcia Polyandria.

Gen. Char. Flores polygamo-monoici, in spadice ramoso sessiles, bracteolati; *masculi* superiores vel inferne bini fœmineos singulos stipantes. *Spatha* duplex; *interior* completa. Masc. *Calyx exterior* trisepalus; *sepalis* ovatis, imbricatis; *interior* trifidus; laciniis oblongis, in alabastro valvatis. *Stamina* plurima, e fundo calycis interioris; *filamenta* filiformia, libera; *antheræ* lineares, subsagittatæ. *Ovarii* rudimentum.—Fœm. *Calyx* maris; *sepalis* imbricato-convolutis. *Staminum* rudimenta nulla. *Ovarium* uniloculare, uniovulatum; *ovulo* erecto. *Stylus* brevissimus, terminalis. *Stigma* 3-lobum vel capitatum, glandulo-spongiosum. *Bacca* 1-sperma, grumoso-fibrosa. *Albumen* ruminatum, rarissime subæquabile. *Embryo* basilaris.—Palmæ *elegantes, inermes.* Caudex *annulatus.* Frondes *magnæ, pinnatæ;* pinnis *reduplicatis erosis.* Spadices *infra frondes, laterales, simpliciter vel duplicato-ramosi, rarius simplices.* Flores *plerumque virides.* Baccæ *ovales.* Semen *plerumque striatum vel sulcatum. Kth.*

Seaforthia *elegans;* caudice procero, pinnis angusto-lanceolatis apice oblique truncatis breviter bifidis lacinia antica longiore et eroso-dentatis, subtus in nervo medio squamulis magnis paleolatis, florum masculorum petalis oblongis obtusis, staminibus 24, baccis ovalibus, nucleo leviter 5-sulcato. *Mart.*

Seaforthia elegans. *Br. Prodr. Fl. Nov. Holl. p.* 267. *Mart. Palm. p.* 181. *t.* 105, 106, *et* 109. *Kth. Enum. Plant. v.* 3. *p.* 189. *Spreng. Syst. Veget. v.* 2. *p.* 623.

No less than fourteen species of the genus *Seaforthia* are enumerated by Martius, chiefly inhabiting Eastern Bengal or the Malay Archipelago. The genus, however, was established by Mr. Brown on a Palm of the northern and eastern coasts of tropical New Holland, viz. the one here figured, which was named in honour of the late Lord Seaforth, "Botanices periti cultoris et fautoris." Plants have been raised at the Royal Gardens of Kew from seeds transmitted by Allan Cunningham; and one of these, having attained a height of twenty-eight feet from the ground, produced its racemes of flowers of a pale, dull, lilac colour, from the side of the dark green, graceful trunk, as repre-

sented in our figure, in the autumn of 1856. These flowers were, none of them, succeeded by fruit.

Descr. "Palma adspectus gratissima," as Martius has rightly remarked. The *trunk* or *caudex* is said to attain a height of thirty feet in its native country, erect, slender, annulated with the transverse scars of fallen leaves, dark green, almost glossy, crowned with a spreading tuft of beautifully pinnated *leaves* or *fronds*, eight to ten feet long, which have long sheathing bases to the petioles. *Pinnæ* numerous, narrow-lanceolate, spreading, a foot or a foot and a half long, several of them unequally bifid at the apex, one segment being much longer than the rest. From the caudex, and below the bases of the leaves, the *spadices*, two in our plant, burst out from opposite sides, of a fleshy nature, and a dull, pale-lilac colour, each from a double (outer and inner) *spatha*, and forming a drooping, much-branched panicle, with many scattered sessile *flowers*, some male and some female. *Flowers* and *fruit* as described in the generic character, except that the *anthers* are rather oval-oblong than linear, and that the *female* has the rudiments of six stamens at the base.

Fig. 1. Entire plant, on a very reduced scale. 2. Portion of spadix of flowers:—*nat. size.* 3, 4. Male flowers more or less expanded. 5. Stamen. 6. Rudiment of pistil from male flower. 7. Female flower. 8. Pistil. (9. Fruit:—*nat. size.* 10, 11. Sections of ditto):—*magnified.*



Vincent Brooks Imp

Tab. 4962.

ADHATODA CYDONIÆFOLIA.

Quince-leaved Adhatoda.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. *Calyx* profunde 5-fidus, laciniis æqualibus. *Corolla* ringens, tubo brevi aut mediocri, *labio* superiore concavo, *inferiore* trilobo. *Stamina* 2, tubo infra medium inserta. *Antheræ* biloculares, loculis in connectivo obliquis, altero altius inserto, inferiore calcarato. *Stigma* obtusum. *Capsula* depressa !, in medio tetrasperma. *Semina* vel lenticularia vel magis compressa.—Herbæ *vel* frutices *regionum temperatarum imprimis tamen calidarum totius orbis*, floribus *variis*, foliis *integerrimis*. *Vel* spicæ *axillares oppositæ*, *vel* flores *axillares*, *vel* spica *terminalis*. Bracteæ *et* bracteolæ, *hæ sæpe grandiusculæ*, *calyce longiores*. Flores *vel abortu secundi*, *vel oppositi*. *Nees*.

Adhatoda (§ Arablyanthus) *cydoniæfolia* ; fruticosa, villosa, foliis ovalibus, pedunculis bifloris bracteis bracteolisque ovalibus calyce brevioribus eumdem æquantibus. *Nees*.

Adhatoda cydoniæfolia. *Nees in Endl. et Mart. Fl. Bras. fasc. v. 7. p.* 148. *t.* 25. *Nees in De Cand. Prodr. v.* 11. *p.* 389.

Of ninety-eight species of *Adhatoda*, enumerated in De Candolle's 'Prodromus,' five only are natives of Brazil, from which country our present handsome species was received by Messrs. Veitch and Son, Exotic Nurseries, Exeter, and King's Road, Chelsea. Of those five, I have hesitated whether to refer it to the *A. holosericea*, Nees, or the *A. cydoniæfolia*, Nees; but I am most inclined to refer it to the latter, though the description seems to allude to a more hairy plant, and having more elliptical leaves than our figure exhibits: the former is however probably a variable character in the species, and the fact of Nees noticing two states of foliage, "*a*, foliis obtusis," and "*β*, foliis acutis," would seem to indicate that the form of the leaves is liable to sport. We received flowering specimens in the autumn both of 1855 and 1856. The flowers are large and showy, striking from the contrast of colour in the corolla.

Descr. An erect or more or less ascending *shrub*, with very

obtusely tetragonous *branches*, swelling at the joints, downy. *Leaves* opposite, on short petioles, elliptical, ovate, rather obtuse. penniveined, entire, pubescenti-villous. *Peduncles* short, axillary, solitary, two-flowered. *Flowers* erect, very large, handsome. *Calyx* downy, deeply cut into five, nearly equal, erect, oblong segments, at the base bearing several bracts, which are much shorter than the calyx, and narrow-ovate. *Corolla* with the white tube scarcely longer than the calyx: *upper lip* large, ovate, erect, emarginate at the apex, white, tipped with purple: *lower lip* very large, pendent, broadly obovato-cuneate, three-lobed at the apex, deep purple, with a white streak down the middle. *Stamens* two, lodged in the concavity of the upper lip. *Anthers* two-lobed. *Rudiment* of a third *stamen*, a long subulate filament, hairy at its dilated base. *Ovary* sunk in a deep *gland* or fleshy cup, ovate: *style* hairy: *stigma* obscurely two-lobed.

Fig. 1. Upper lip of the corolla, showing the stamens. 2. Anther. 3. Transverse section of ovary in its cup. 4. Cup and ovary. 5. Calyx, bracts, and pistil:—*magnified*.



Tab. 4963.*

SCHEERIA lanata.

Woolly Scheeria.

Nat. Ord. Gesneraceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4743.)

Scheeria *lanata;* caule elato robusto cum tota herba densissime molliterque candido-lanato, foliis late ovatis subobtusis, basi obtusis, margine crenulatis, subreflexis, superne glabrioribus rugoso-venulosis, breviter petiolatis, pedunculis axillaribus unifloris, petiolo plus 4-plo longioribus, corolla ex angusta basi ventricoso-ampliata, ventre multicostulato lilacino, limbi revoluti undulato-denticulati lobo ventrali kermesino-venoso, fauce albida aurantiaco-punctulata.

Scheeria lanata. *Hanstein, Linnæa, v.* 27. *p.* 515.

Mandirola lanata. *Planch. et Linden, MSS. et in Cat.* 1855. *Ch. Lemaire, Illust. Hort. v.* 3. *t.* 80.

Those who compare the specimens found by Galeotti, on rocks of the Western Cordillera of Mexico (n. 1902), with the representation given in our Plate (drawn from a plant which flowered for the first time in the Royal Botanic Gardens, in October last), will be loath to imagine that they can belong to the same species, for Galeotti's specimens, at least the two preserved in the Hookerian Herbarium, are only from two to three inches high, and have no more than from six to eight leaves of small size, and moreover they are clad with a rather brownish than white wool. Yet there is no doubt that they are identical, and that *Scheeria lanata*, like *S. Mexicana* and other *Gesneraceæ*, has been much improved by cultivation, whilst the difference in the colour of the wool is entirely owing to the process of drying, as

* Erratum. The Subscribers of this Work are particularly requested to alter the numbering of the Plate which accompanies this (Tab. 4963), to 4954, and remove it to the page of letter-press so numbered in the last volume; and further to alter the Plate there given (Tab. 4954) to 4963, and transfer it to this place. By an oversight the two Plates in question were thus incorrectly numbered.

January 1st, 1857.

is satisfactorily proved by experiment. We have at the present moment no means of deciding whether its first discoverer was Galeotti or Ghiesbrecht, who, according to Linden, found it on rocks near Pantepic; but we learn from Lemaire that we are indebted to the brothers Tonel for its introduction into M. Verschaffelt's celebrated nursery, whence it was spread through other establishments.

Descr. *Stem* erect, robust, and clad, as is the foliage, more or less with whitish, soft hair. *Leaves* broad-ovate, obtuse, at the base obtuse, on the margin crenulate, on the upper surface with rough veins; *petioles* short. *Peduncles* axillary, one-flowered, nearly four times longer than the petiole. *Corolla* swelling from the base, pink-lilac, the lobes denticulated, with purple veins (but especially the central one), and the throat white, with orange-coloured dots.—*Berthold Seemann.*

Fig. 1. Ovary, showing the glandular disc surrounding it, and style and stigma:—*magnified.*

Tab. 4964.

LOBELIA Texensis.

Texas Lobelia.

Nat. Ord. Lobeliaceæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-lobus; *tubo* conico, ovoideo, vel hemisphærico. *Corolla* superne longitudinaliter fissa, bilabiata, tubo cylindraceo vel infundibuliformi recto; *labio* superiore sæpius minore et erecto, inferiore sæpius patente latiore 3-lobo vel rarius 3-dentato. *Antheræ* duæ inferiores vel rarius omnes apice barbatæ. *Ovarium* inferum vel semi-superum, imo (in speciebus simillimis) subliberum.—Herbæ *vel rarius* suffrutices; foliis *alternis;* floribus *sæpius racemoso-spicatis*, pedicellis *axillaribus;* corolla *cærulea, alba, violacea, rubra vel ex rubro aurea. De Cand.*

Lobelia *Texensis;* puberula, caule flexuoso simplici, foliis sessilibus lanceolatis denticulatis acutis remotis, floribus racemosis secundis remotis, bracteis lanceolatis, pedicellis bractea brevioribus, lobis calycinis linearibus, lobis corollæ angustis acutis.

Lobelia Texensis. *Rafin. Herb. Part.* 1. *ann.* 1833, *p.* 20. *De Cand. Prodr. v.* 7. *p.* 382. *Klotzsch in Ic. Plant. Rar. Hort. Berol. p.* 82. *t.* 33.

One of the many attractive herbaceous plants which now adorn our flower-borders; native of Texas, but when and by whom introduced to our gardens we are not aware. De Candolle asks, "An a *L. cardinali* diversa?" but he appears never to have seen the plant, and indeed intimates as much by the absence of the (*v. s.*) at the end of his remarks. It is of far more robust habit than that species, with broader leaves, very large and numerously flowered racemes, quite leafy, with the copious bracts, which are generally longer than the flowers and pedicels together. It flowers during the summer months.

Descr. *Root* perennial. *Stem* erect, herbaceous, stout, two to three feet high, angled, subsimple, leafy. *Leaves: lower ones* a span long; *upper ones* gradually smaller, and passing into the bracteas, all of them sessile, broad ovato-lanceolate, very much acuminated, spreading, and often recurved, rather obscurely toothed or serrated, subcarinated, penninerved; *nerves* few, oblique, slightly puberulous. *Raceme* a span and more long,

many-flowered, subpyramidal, and copiously bracteated. *Bracteas* gradually becoming smaller upwards, and always as long as, or longer, than the flowers, patent or recurved, carinated, from an ovate base acuminated, the margin denticulated. *Pedicels* about an inch long. *Flowers* erecto-patent. *Calyx* with the *tube* exceedingly short, hemispherical, five-angled: *limb* of five, subulate, almost spiniform, erect, distant *lobes*, two inferior ones more distant from the flower than the three superior ones: they have all a pubescent line on the back. *Corolla* bright scarlet: *tube* narrow, straight, an inch and more long; *limb* two-lipped; *upper lip* of two, spreading, linear-lanceolate segments; *lower* of three spreading ones, rather larger than the upper ones. *Column* of *stamens* (*staminal tube*) rather longer than the tube of the corolla. *Anthers* syngenesious, leaden colour. *Style* as long as the stamens, but concealed by the latter. *Stigma* two-lobed, downy.

Fig. 1. Flower, from which the corolla is removed:—*magnified*.


1.
2.

Tab. 4965.

ANSELLIA Africana.

African Ansellia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala oblonga, carnosa, æqui-patentia, libera. *Petala* conformia, recta, patula, duplo latiora. *Labellum* sessile, patulum, trilobum, bilamellatum, lobo medio minore verrucoso. *Columna* elongata, marginata, basi utrinque auriculata. *Anthera* bilocularis. *Pollinia* 4, sessilia, basi contigua, duobus dorsalibus multo minoribus; glandula angusta utrinque acuminata.—Caulis *elongatus, teres, apice tantum foliosus.* Folia *plicata, coriacea.* Panicula *terminalis. Lindl.*

Ansellia *Africana.*

Ansellia Africana. *Lindl. Bot. Reg.* 1844, *sub t.* 12. *et* 1845, *t.* 30.

Var. *β. Natalensis;* flore pallidiore maculis paucis indistinctis, labello minore magis elongato. (Tab. Nostr. 4965, f. 3.)

Ansellia gigantea. *Reichenb. fil. in Linnæa, v.* 20. *p.* 673.

This is, as Dr. Lindley well observes, a noble plant of considerable size, the elongated stems, rather than pseudo-bulbs, growing in tufts, and each stem bearing a long, gracefully drooping panicle of large flowers; but the flowers are deficient in brilliancy or even brightness, the ground-colour a pale livid green, dashed with copious dark-purple blotches, very indistinct on the outside of the flower: the lip has its large terminal segment yellow, the brightest part of the blossom. Looking, indeed, at a flower individually in full front, it may be called handsome: but a degree of dulness and obscurity is given to the mass of flowers in the panicle, by so much of their back being seen. Its blossoming is, at least with us, in the winter season, and our finest plant has at this moment (January, 1857) five noble gracefully drooping racemes from as many stems, of which racemes our figure represents but a portion of one. It is a native of Fernando Po, and the opposite coast of tropical Africa; but Mr. Wilson Saunders has received from Natal a plant considered to be the *Ansellia gigantea* of Reichenbach, fil., in Linnæa, vol. xx. p. 675, but which appears to us, as sug-

gested by Dr. Lindley, to be probably only a pale-flowered variety of the same species, of which we have represented a flower of the natural size at fig. 3.

Descr. *Plant* growing in dense tufts. *Stems*, rather than pseudo-bulbs, elongated, one and a half to two feet tall, sheathed with the long bases of the leaves, which are ribbed with elevated lines. *Leaves*, mostly from the upper part of the stem, a foot and more long, an inch and a half to two inches broad, ligulato-lanceolate, more or less recurved, firm and somewhat coriaceous, striated with five parallel lines, prominent on the under side. *Panicles* ample, terminal, much branched almost to the base, drooping. *Flowers* numerous, large. *Petals* and *sepals* moderately spreading, but incurved, oblong, obtuse, pale yellowish-green, internally varied with numerous irregular spots or blotches, mostly transversely oblong, of a deep purple colour, externally with very faint, indistinct, greyish blotches; the petals are a good deal broader than the sepals. *Lip* oblong, three-lobed, side-lobes erect, rounded, streaked within with purple; the disc has two, elevated, longitudinal plaits or lamellæ; middle lobe deep yellow, ovate, rather crisped, recurved at the apex. *Column* elongated, subsemiterete, dilated upwards, pale yellow, spotted or blotched with purple; the base is protruded (when the lip is articulated upon it), yellow, with a slightly elevated margin, edged with red, forming a very short obtuse lobe on each side. *Anther-case* with a short beak. *Pollen-masses* four; two very small, attached to a transverse *gland*.

Fig. 1. Column. 2. Front view of the labellum:—*magnified*. 3. Flower of var. β.:—*nat. size*.



Tab. 4966.

STOKESIA cyanea.

Cyaneous Stokesia.

Nat. Ord. Compositæ (Vernoniaceæ).—Syngenesia Æqualis.

Gen. Char. Capitulum multiflorum, radiatiforme. *Involucrum* subglobosum, basi bracteatum, pluriseriatum, imbricatum, squamis adpressis, exterioribus ovalibus in append. foliaceum patulum ciliato-spinulosum desinentibus, interioribus oblongis ciliolatis. *Receptac.* carnosum, nudum. *Corollæ* palmatæ, glandulis conspersæ, exteriores capituli majores intus profundius fissæ. *Antheræ* inclusæ. *Styli* rami semi-subulati. *Achenium* breve, tetra-(rarius tri-)gonum, areola terminali lata 4-gona. *Pappus* 1-serialis, 4–5-paleaceus, *paleis* deciduis longis planis scariosis integerrimis.—Herba *erecta ramosa glaucescens glabriuscula, caule apice villoso-tomentoso.* Folia *alterna, infer. ovalia integerrima in petiolum longe attenuata, super. semi-amplexicaulia lanceolata ad basin serrato-spinosa.* Capitula *ramos terminantia, solitaria.* Flores *cærulei. De Cand.*

Stokesia *cyanea.*

Stokesia cyanea. *L'Hérit. Sert. Angl. p.* 27. *Ait. Hort. Kew. ed.* 2. *p.* 401. *De Cand. in Ann. Mus. Par. v.* 16. *p.* 154. *Prodr. v.* 5. *p.* 71. *Torr. et Gray, Fl. of N. Am. v.* 3. *p.* 60.

Carthamus lævis. *Hill, Hort. Kew.* 54. *f.* 5.

Carthamus Carolinianus. *Mich. in Herb. Mus. Par.* (*according to De Cand.*).

Cartesia centauroides. *Cass. Bull.* 1816, *p.* 198.

Centaurea Americana. *Hook. in Drum. Pl. of S. U. S. Comp. Bot. Mag. v.* 1. *p.* 48. (*not Nutt.*)

A really handsome Composite plant, whose flowers vie in size and beauty with the celebrated Chinese *Asters,* native of South Carolina, Georgia, and Covington, Louisiana; indeed it is considered by Messrs. Torrey and Gray "one of the rarest plants of the United States;" nevertheless it was introduced into the Royal Gardens of Kew nearly a century ago by Mr. James Gordon. Mr. Drummond's specimens from Louisiana were carelessly mistaken for the fine *Centaurea Americana,* and recorded as such in the Catalogue of his S. U. S. plants given in the Companion to the Botanical Magazine; it is, in fact, an extremely

distinct genus, and was named *Stokesia* in compliment to Dr. Jonathan Stokes, M.D., of Dublin, and Fellow of Trinity College there.

Descr. Herbaceous, perennial, having a branching, erect, somewhat tomentose, terete *stem; branches* often purplish. *Leaves* lanceolate; *radical ones* entire, tapering below into long flattened stalks; the *cauline ones* gradually become sessile towards the upper part of the branches, and those have a few teeth on each side near the base; uppermost semiamplexicaul. *Involucre* of many, imbricated, broad *leaflets*, terminated by a harsh, leafy, spreading and reflexed, ciliated extremity, which gives a squarrose appearance to the involucre; the cilia are firm and subspinulose; the lowermost leaflets more resemble the upper leaves, being large and not ciliated. *Receptacle* fleshy, naked. *Head* of *flowers* very large, purplish-blue. *Florets* very numerous; *outer ones* the largest and subradiate, and more densely cleft at the extremity. *Achenia* four- or five-sided. *Pappus* of four or five linear-lanceolate paleaceous scales.

Fig. 1. Portion of the receptacle. 2. Outer floret. 3. Apex of style:—*magnified.*

Tab. 4967.

PHYTOLACCA icosandra.

Long-racemed Poke-weed.

Nat. Ord. Phytolaccæ.—Decandria Decagynia.

Gen. Char. *Flores* hermaphroditi, tribracteati. *Calyx* 5-partitus; laciniis petaloideis vel herbaceis, margine membranaceis, æqualibus, fructiferis reflexis. *Corolla* nulla. *Stamina* 5–25, subhypogyna, libera, disco carnosulo inserta, 5 exteriora cum calycis laciniis alterna, cætera fasciatim vel inordinate iisdem opposita. *Filamenta* subulata. *Antheræ* ellipticæ, incumbentes. *Ovarium* compositum. *Carpella* 5–12, toro convexiusculo sessilia, verticillata, juxta totam longitudinem connata. *Ovula* in loculis solitaria, basifixa, campylotropa. *Styli* 6–12, breves, discreti, subulati, apice recurvi, coronulam terminalem sæpe efformantes. *Stigmata* superficies interna stylorum. *Fructus* baccatus, succulentus, depresso-globosus vel globosus, longitrorsum costatus vel ecostatus, plurilocularis, calyce reflexo interne stipatus; loculis monospermis, indehiscentibus. *Semina* verticalia, fundo loculamentorum prope axim fructus affixa, subgloboso-lenticularia, brevissime rostellata; *testa* crustacea, fragili. *Albumen* centrale, copiosum, farinaceum. *Embryo* annularis, periphericus; *radicula* descendente; *cotyledonibus* linearibus, planiusculis, incumbentibus.—Herbæ, *raro* frutices, *amphigeæ, tropicæ et subtropicæ.* Caules *erecti.* Folia *alterna, petiolata, integerrima, penninervia.* Flores *pedicellati aut sessiles, in racemos simplices spicæformes aphyllos primum subterminales et erectos tandem oppositifolios et cernuos dispositi.* Bracteæ *glabræ, inferior basi, laterales paulo infra apicem aut medium versus pedicelli.* DC.

Phytolacca *icosandra;* caule terete, foliis elliptico-ovatis brevi- sed tenui-acuminatis, racemis pedunculatis folio multo longioribus, floribus pedicello 4-plo brevioribus 10–15-(20-)andris 10–20-gynis, baccis depresso-globosis **umbilicatis demum sulcatis.**

Phytolacca icosandra. *Linn. Sp. Pl. p.* 631 (*not Bot. Mag., fide Moquin*). *Mill. Ic. t.* 207. *Moq. Tand. in De Cand. Prodr. v.* 13. *Pars* II. *p.* 33.

Phytolacca Mexicana. *Gærtn. Lam. Ill. t.* 393. 2. *f.* 2.

Phytolacca Bogotensis. *Miq. Sert. Exot. p.* 6. *t.* 3. (*not Kunth, fide Moq.*).

The *Phytolacca icosandra* of Sims, in Bot. Mag. t. 2633, and which has an erect, herbaceous raceme, flowers longer than the pedicels, and leaves undulated or crumpled at the base below, is considered by Moquin-Tandon to belong to the *P. Mexicana of Sweet* (*not Gærtn.*), and both are placed in the second section of the genus, chiefly distinguished by the "bacca ecostata;" and

certainly when I first saw our plant, with its bright, black, plump berries, quite even on the surface, I could not see how our plant could belong to that division: but as the pulp dries, whether on the living plant, through age, or as seen in the Herbarium (and as shown in our figure), it is as distinctly furrowed or costate as the species in the first section. Notwithstanding that our plant is destitute of beauty, both in leaf and flower, the bright coral-red of the rachis and of the pedicels of the long and graceful racemes, together with the deep purple-black of the copious berries, are very attractive, and ought to recommend this species to general cultivation. It seems to be a native of the warm parts of the New World, and was imported, we believe, by the Belgian cultivators from Mexico. From them we have received it under the name of *Phytolacca violacea*. We have cultivated it hitherto in the stove; but it would, no doubt, succeed well in a greenhouse in the summer, at which season it bears flowers and fruits copiously.

Descr. Our *plants* are about two feet high, suffruticose below, branched and herbaceous above; *branches* terete, sometimes slightly tinged with purple, glabrous, as is every part of the plant. *Leaves* three to four inches long, slightly fleshy, elliptical-ovate, petiolate, sharply acuminate, penninerved, entire; *petioles* one and a half to two inches long. *Racemes* inserted on the branch, opposite to the leaf, very long, graceful, drooping, continuing to lengthen as the flowers expand and as the fruits ripen. *Peduncles* two to three inches long, stout. *Rachis* eight to ten inches long, bright coral-red; *pedicels* also red, a line to a line and a half long in flower, four lines in fruit, bracteolate. *Perianth* of five, spreading, obovate, yellow-green *sepals*. *Stamens* frequently ten, varying to fifteen and even to twenty. *Filaments* erect, slender. *Anther* ovate. *Ovary* globose, terminated by ten or more subulate recurved *styles*, having a line on the upper side, forming the stigmatic surface. *Berries* about as large as a small pea, depresso-globose, umbilicated, glossy, at first green, then dark purple, at length almost jet-black. On withering the fruit becomes costate, the pulpy substance shrinking between the cells, and presenting as many ribs and furrows as there are seeds.

Fig. 1. Flower. 2, 3. Stamens. 4. Berry. 5. The same, cut through transversely:—*magnified*. 6. Withered costate fruit:—*nat. size*.



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W.Fitch del. et lith.

Vincent Brooks Imp

Tab. 4968.

RHODODENDRON CAMPYLOCARPUM.

Curved-fruited Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *campylocarpum;* fructicosum, ramis gracilibus, foliis ellipticis obtusis mucronulatis petiolatis basi cordatis coriaceis glabris subtus pallidis glaucis, umbellis plurifloris, pedicellis calycibus ovariisque oblongis glanduloso-pilosis, calycis lobis parvis rotundatis, corollæ lato-campanulatæ pallide stramineæ lobiss ubrotundis, staminibus 10, capsulis oblongis curvatis 5–7-locularibus.

Rhododendron campylocarpum. *Hook. fil. Rhod. Sik.-Himal. tab.* 30, *and in Journ. of Hort. Soc. v.* 7. *p.* 79.

From the collection of Messrs. Standish and Noble, Bagshot Nursery, where it flowered in April of the past year (1856) in a cool frame. It is a native of rocky valleys and open spurs in the mountains of Sikkim-Himalaya, elevation 11–14,000 feet above the level of the sea, and there abundant. At such an elevation it is natural to expect that the plant would be hardy in the open air in Britain; and so this and other such Himalayan Rhododendrons are: but, unfortunately, the flowering season is so early that we cannot hope to see them come to perfection without the protection of a frame or cool greenhouse, admitting plenty of air when the weather is mild. Thus treated, this species will be found to deserve the praises it has received from Dr. Hooker in the following description.

Descr. "A small *bush* six feet high, rounded in form, of a bright cheerful green hue; and which, when loaded with its *inflorescence* of surpassing delicacy and grace, claims precedence over its more gaudy congeners, and has always been regarded by me as the most charming of the Sikkim Rhododendrons. The plant exhales a grateful honeyed flavour from its lovely bells, and a resinous sweet odour from the stipitate glands of the petioles, pedicels, calyx, and capsules. *Leaves* on slender *petioles*, three-

fourths of an inch long, coriaceous, but not thick in the texture, two or three and a half inches long, one and three-quarters to two inches broad, cordate at the base, rounded and mucronate at the apex; in all characters, except the evanescent, glandular pubescence, and spherical buds, undistinguishable from *Rhododendron Thomsoni*. *Flowers* horizontal and nodding. *Corolla* truly campanulate, delicate in texture, tinged of a sulphur hue and always spotless, nearly two inches long, broader across the lobes, which are finely veined. The *pedicels* of the capsules radiate horizontally from the apices of the ramuli, and the *capsules* curve upwards with a semicircular arc; they are about an inch long, always loosely covered with stipitate *glands*."—*J. D. Hook. in Rhod. of Sik. Himal.*

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of ovary:—*magnified*. 4. Capsule:—*nat. size*.



W.Fitch del et lith

Vincent Brooks Imp.

Tab. 4969.

HOYA coronaria.

Coronated Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4347.)

Hoya *coronaria*, Bl.; caule scandente, ramis robustis, petiolis pedunculis calycibus extus foliisque subtus pilis curvatis magis minusve velutinis, foliis sublonge petiolatis crasse carnosis apiculatis basi obtusis obsolete transversim venosis marginibus subrecurvis, umbellis pedunculatis multifloris, corollæ majusculæ laciniis triangularibus extus pubescentibus intus glabris, coronæ staminеæ foliolis angulo exteriore rotundatis obtusis.

Hoya coronaria. *Bl. Bijdr. Fl. Ned. Ind. p.* 1063 *(excl. syn. Herb. Amb.), Rumphia, vol.* 4. *p.* 31. *t.* 183. *f.* 2, *et t.* 184. *f.* 2.

Hoya grandiflora. *Bl. MSS. et Decaisne in De Cand. Prodr. v.* 8. *p.* 635.

Hoya velutina. *Wight, Contr. Bot. of India, p.* 35. *Wall. Cat. n.* 8150.

Aroy kilampahan, Sundaicè.

This fine *Hoya* was introduced to our stoves by the Messrs. Veitch, of the Exeter and Chelsea Exotic Nurseries, from Java, through their collector, Mr. Thomas Lobb, and it proves to be the *Hoya coronaria* figured and described by Blume, l. c. It is, next to *Hoya imperialis*, Lindl., undoubtedly the largest-flowered species of the genus yet cultivated in our gardens. The colour of the corolla, though exhibiting no bright or gay tint, has nothing of the lurid character of the species last mentioned; it is a pale sulphur-yellow, prettily relieved by five red spots immediately around and at the base of the *corona staminea*. Blume appears to have been the first to discover this plant in moist woods and shady banks of Western Java, and was then disposed to refer it to the "Corona Ariadnes punicea" of Rumphius, under the name of *H. grandiflora*, in which Decaisne has followed him in De Cand. Prodr.; but Blume afterwards corrected himself, and gave of this species a good figure and description under the name we here adopt. It is not however peculiar to Java: Dr. Wallich detected it in Silhet. The milky juice of the leaves,

Blume observes, is acrid, and excites nausea; nevertheless the mountain tribes eat the plant uncooked, mixed with capsicum and salt, and consider that it assists digestion. Our drawing was made from Messrs. Veitch's plant in November, 1856.

Descr. Suffruticose climber; *branches* rather thick, terete, downy, green. *Leaves* opposite, distant, petiolate, elliptical, apiculate, thick, fleshy, pale green, three to five inches long, obtuse at the base, the margin a little recurved, penninerved; *nerves* obscure, nearly horizontal: above glabrous, the costa on the upper side, and the whole leaf beneath, as well as the thick, terete *petiole*, about an inch long, are subvelutinous, the hairs (and wherever they exist on the plant) curved. *Peduncle* arising from between the pairs of leaves, an inch or more long, downy, bearing an *umbel* of many *flowers*: *pedicels* (which are longer than the peduncle) downy. *Calyx* of five, downy, ovate, rather acute lobes. *Corolla* rotate: the *lobes* triangular, acute, moderately carnose, pale sulphur-yellow, with five small red spots at the base of the tube. *Staminal crown* large, conspicuous, of five blunt lobes or rays. Blume describes the fruit as "*Folliculus* cucumerinus, 8–10-poll., cylindricus, aliquantum curvatus, sulco longitudinali exaratus,—textura crassa spongiosa, sulco longitudinali tandem dehiscens."

Fig. 1. Portion of a pedicel, with the corona staminea:—*magnified*.


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Tab. 4970.

DENDROBIUM HETEROCARPUM;

var. HENSHALLII.

Various-fruited Dendrobium; Mr. Henshall's variety.

Nat. Ord. ORCHIDEÆ.—GYMNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4352.)

DENDROBIUM *heterocarpum;* caulibus teretibus pendulis, foliis oblongis acutis planis, floribus geminatis ternatisque odoratis racemum spurium formantibus, sepalis lineari-oblongis acutis, petalis ovatis acutis sepalo supremo majoribus, labello unguiculato, limbo subpanduriformi holosericeo medio elongato acuminato plano. *Lindl.*

α. *aureum;* labello luteo, disco aureo-sanguineo.

DENDROBIUM heterocarpum. *Wall. Cat. n.* 20. *Lindl. Gen. et Sp. Orchid. p.* 78. *Bot. Reg. Misc.* 1844. *p.* 49. *n.* 11. *Hook. Bot. Mag. t.* 4708.

DENDROBIUM aureum. *Lindl. Gen. et Sp. Orchid. p.* 78.

β. *Henshallii;* caulibus gracilioribus, labello albo basi albo, disco maculis duabus atro-sanguineis (TAB. NOSTR. 4970).

γ. *pallidum;* floribus minoribus, labello albo basi intus aureo.

DENDROBIUM aureum; *var.* pallidum. *Lindl. Bot. Reg.* 1839. *t.* 20.

δ. *immaculatum;* labello pallide citrino.

Even in our own stoves this pretty species of *Dendrobium* is liable to great change in the colour and markings of the labellum, as the above notice of varieties, that have come under our own knowledge, will show. Two of the above variations have been already figured; a third is here represented; and a fourth is now flowering (February, 1857) in the stove of the Royal Garden of Kew, viz. that with a very pale lemon-coloured lip, without any blotch of a deeper colour. The range of the species, in its native state, is now known to be extensive: Ceylon, the Madras Peninsula, the northern (Nepal) and eastern (Assam) districts of Bengal; and recently the Messrs. Rollison have imported from Java the plant here figured, which, if it had been distinct, we

would gladly have named after the collector who sent it to them. It seems however unquestionably specifically the same as *D. heterocarpum*, and as a variety of that we here give it. All the varieties are worthy of cultivation.

For the description we must refer to that of the original Wallichian species (Tab. 4708) of the present work; the chief differences may be mentioned in few words: the *stems* are more slender, not so clavate, and the *joints* are less tumid; the *lip* is for the most part pure white, the base only suffused with yellow, and the middle lobe of the lip, instead of having the whole disc of a deep golden sanguineous stain, has two dark sanguineous spots confined to its base.

Fig. 1. Side view of the labellum. 2. Front view of the labellum. 3. Column. 4. Pollen-masses:—*magnified*.



Vincent Brooks Imp

Tab. 4971.

EUCHARIS GRANDIFLORA.

Large-flowered Eucharis.

Nat. Ord. Amaryllideæ § Pancratieæ.—Hexandria Monogynia.

Gen. Char. Eucharis, *Planch. et Lind.*—*Perianthii* basis cum ovario concreta, *tubo* a basi leviter incurvo inferne angusto, superne sensim infundibuliformi, *limbi* 6-partiti laciniis revoluto-expansis, exterioribus quam interioribus lanceolato-ellipticis angustioribus. *Corona* subcampanulata, perianthii fauci inserta, ad tertiam partem 6-fida, divisuris latis apice subbilobo-truncatis, inter dentes obtusos staminiferis; *filamenti* pars libera late subulata, recta. *Antheræ* lineari-oblongæ, supra basin bifidam dorso insertæ, demum versatiles, biloculares, rima duplici longitudinaliter dehiscentes. *Stylus* filiformis, exsertus; *stigma* vix dilatatum, trilobulatum. *Ovarium* obtuse trilobum, triloculare; *ovulis* 2, anatropis, angulo interno horizontaliter superpositeque affixis. *Capsula* (immatura) alte triloba, lobis gibbosis, a latere compressiusculis, verosimiliter abortu monospermis (nunc ovulis pluribus, in loculo quoque 16–18).—Herba *Novo-Granatensis, bulbosa, glaberrima*, bulbo *ovato-oblongo, squamis completis tunicato.* Folium *unicum, floribus coætaneum, longiuscule petiolatum*, petiolo *antice plano*, lamina *late elliptica, acuminata, basi in petiolum decurrente*, costa *medio subtus obtuse prominente*, nervis *utrinque* 10 *et ultra, incurvis, basi apiceque conniventibus, invicem nervulis transversis connexis, pagina supera atro-viridi, infera pallidiore.* Scapus 2-*pedalis, folio longior, superne compressiusculus, apice* umbella 8–10-*flora ornatus*, spathis *pluribus lineari-lanceolatis v. linearibus marcescentibus, pedicellis* 8–18 *lin. longis*, floribus *candidis* (corona *basi lutescente*), *vix odoratis. Planch. et Lind.*

Eucharis *grandiflora;* foliis in stirpe florifera 2–4 cordato-ovatis medio canaliculatis, scapo 3–5-floro, perigonii laciniis exterioribus ovatis interioribus latioribus, ovarii loculis 16–18-spermis.

Eucharis grandiflora. *Planch. et Lind. Flore des Serres, v. 9. p. 255. t. 957.*

From the collection of Messrs. Veitch and Son, King's Road, Chelsea, where it bears the appellation of *Eucharis Amazonica*, a name we find nowhere recorded, and there can be no question of its being the *E. grandiflora* of Planch. and Linden, in the work above quoted, where however we find the specific character at variance with the figure, "perigonii laciniis exterioribus ovato-lanceolatis interiora latitudine excedentibus:" the reverse is the case, both in their figure and in our specimens. Those authors notice its affinity with their *E. candida* of the same work, vol. ix.

p. 107, a species with which we are not acquainted. With us it blossoms in the stove in the winter months, and the truly noble pure white flowers, the large staminal cup slightly suffused with pale yellow-green, are highly fragrant. Inhabits the Province of Choco, New Granada. It is impossible not to see a very close analogy between Linden and Planchon's genus *Eucharis* and *Eurycles* of Salisbury (in our Tab. 3399); the true nature of the bulbs, leaves, and flowers are the same. The latter genus is exclusively a native of the warm parts of the Old World, whilst our plant is peculiar to the New.

Descr. *Leaves* rising from a rather large tunicated bulb. *Petioles* from five to seven inches long, semiterete, plane or slightly grooved above: the *blade* about equal in length to the petiole, or longer, ovate, shortly acuminate, striated, dark green above, paler beneath. *Scape* a foot or more high, bearing about six or seven large white fragrant *flowers*, which emerge from a bifid membranaceous *spatha*. *Peduncles* very short, with subulate *bracteas* at their base. *Perianth* hypocrateriform: the *tube* curved, narrow for its greater length, expanding upwards, three inches long, including the oblong, green, subtrigonal *ovary*. *Limb* of six, horizontal, acute or subapiculate segments: three outer exactly ovate; three inner cordiform-ovate. *Staminiferous cup* large, white, tinged with green, six-lobed at the margin, each lobe bifid, with its obtuse lobules subdivergent, and bearing a *stamen* in the centre. *Filament* short, subulate, erect: *anther* linear, versatile. *Ovary* oval, trigonous, three-celled, with fourteen to sixteen *ovules*, in two rows. *Style* longer than the stamen: *stigma* three-lobed.

Fig. 1. Transverse section of the ovary, with ovules:—*magnified*.



1. 2. 3. 4.

Tab. 4972.

RHODODENDRON album.

Cream-coloured Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *album*; subhumile, foliis oblongo-lanceolatis brevi-petiolatis acutis subtus ramulis junioribus petiolis pedicellis calycibus ovariisque ferrugineo-lepidotis, corymbis terminalibus umbellatis subsessilibus plurifloris, floribus parvis, calycibus minutis, lobis rotundatis inæqualibus, corolla late campanulata ochroleuca, lobis rotundatis retusis, staminibus 10, ovario 5-loculari elliptico sulcato, disco hypogyno magno carnoso sublobato, stigmatis lobis 5 parvis erectis.

Rhododendron album. *Cat. Hort. Buitenz. p.* 72. *De Cand. Prodr. v.* 7. *p.* 721. *(non Ham. et Sweet.)*

Vireya alba. *Bl. Bijdr. Fl. Ned. Ind. p.* 853.

A native of the Salak mountains of Java, according to Blume, and an exceedingly pretty species; not the less pretty for the flowers being rather ochroleucous than white. We do not wonder that Blume (the only author who has described the plant) should have called them white, in comparison of the rich orange or red of the other Javanese species of this genus known to that author. The ferruginous undersides of the leaves too, occasioned by the copious scales or scurf of that colour, give a richness to the tints of the foliage. In the size, and somewhat in the colour of the flowers, this resembles the *Rhododendron citrinum* (see our Tab. 4797), also a Java plant; but that has more tubular and yellower corollas, a larger calyx, only five (red) stamens, broader leaves, destitute, as is the rest of the plant, of the bright ferruginous scales. The Messrs. Rollison, of the Tooting Nursery, have been so fortunate as to possess this plant, sent by their collector, Mr. Henshall, from Java. With them it flowered in the stove in November, 1856, and

from their specimen we have been able to give the accompanying figure.

Descr. Apparently a small *shrub*, flowering when less than a foot high. *Branches* clothed with a reddish-brown bark; the younger ones lepidote. *Leaves* rather copious, spreading, three to four inches long, oblong-lanceolate, acute, on short lepidote *petioles*, pinnatedly veined, naked, glabrous, and dark green above; beneath, thickly clothed with minute ferruginous scales, giving a rich rusty colour to the whole underside of the foliage. *Corymbs* umbellate, terminal, shorter than the leaves. *Pedicels* an inch or an inch and a half long, lepidote. *Flowers* small (for the genus). *Calyx* minute and indistinct, of five (unequal) rounded lobes, scaly on the outside. Corolla broad-campanulate, pale ochroleucous or cream-colour, its five lobes nearly equal, rounded, retuse. *Stamens* ten, scarcely longer than the tubular portion of the corolla. *Filaments* slightly hairy at the base, sometimes bearing one or two spiniform teeth. *Ovary* very lepidote, furrowed, elliptical, five-celled, seated on a large fleshy lobed *disc*. *Style* shorter than the stamens. *Stigma* a little dilated and bearing five erect points or small lobes.

Fig. 1. Calyx. 2. Stamens, one of them with spiniform teeth. 3. Pistil and fleshy hypogynous disc. 4. Transverse section of the ovary:—*magnified*.



2.

1.

Tab. 4973.

CALATHEA villosa : *var.* pardina.

Villous Calathea; spotted-leaved var.

Nat. Ord. Marantaceæ.—Monandria Monogynia.

Gen. Char. Calyx triphyllus. *Corollæ* 6-partitæ *laciniæ* exteriores lanceolatæ, interiores obtusæ; *labellum* concavum, hinc dente auctum. *Filamentum* petaloideum, *anthera* lineari, adnata. *Ovarium* inferum, 3-loculare; *ovula* in loculis solitaria, basilaria, campylotropa. *Stylus* petaloideus: *stigma* trigonum. *Capsula* trilocularis, trisperma, v. abortu unilocularis, monosperma. *Semen* uncinato-oblongum, umbilico basilari foveato, *testa* coriacea. *Albumen* farinosum. *Embryo* rectus, excentricus, extremitate radiculari umbilicum attingente, lectuli embryonalis crure altero vacuo.—Herbæ *in America tropica indigenæ, excelsæ*; foliis *longe petiolatis, radicalibus maximis*, spicis *terminalibus imbricato-bracteatis. Endl.*

Calathea *villosa*; acaulis, molliter villosa, foliis petiolatis oblique ellipticis breviacuminatis scapo vix longioribus, spica cylindracea elongata, bracteis subdistantibus apice patulis acuminatis, limbi corollæ interioris lacinia superiore obovata emarginata inferiore oblonga biloba.

Calathea villosa. *Lindl. Bot. Reg.* 1845, *t.* 14.

β. foliis atro-fusco-maculatis. Calathea pardina. *Planch. et Lind. in Prix Courant, etc., Fl. Nouv.* 1855, *p.* 2. *cum Ic.* (Tab. Nostr. 4973.)

That this is the *Calathea pardina* of Planchon and Linden, cannot be doubted; their figure in the "Prix Courant" is sufficiently satisfactory, and our plants are derived from the Belgian Gardens; but why the authors of that little work, who are evidently acquainted with the figure and description of Dr. Lindley above quoted, do not adopt Dr. Lindley's prior name, we cannot understand. "Elle est très voisine du Calathea villosa, 'Bot. Mag.,' plante de la Guyanne, probablement perdue pour les jardins et qui d'ailleurs ne présente sur la figure aucunes traces de ces mouchetures qui donnent à notre espèce un mérite ornamental hors ligne." It would thus appear that there are three reasons why Dr. Lindley's plant is not the same as ours. 1. It is a native of British Guiana, and not of the adjacent territory of New Granada; 2. It is probably lost to our gardens; and 3.

The leaves are destitute of spots. It is thus that Botany is encumbered with a multitude of false species, to gratify a love of notoriety by giving a name of one's own. We are quite ready to acknowledge that large dark blotches are a great ornament to the foliage; and when, in addition, the large yellow flowers are in perfection, it must be acknowledged to be a plant well worthy of a place in every stove collection. Sir Robert Schomburgk detected the plant in the neighbourhood of Demerara, and sent roots to the Messrs. Loddiges, prior to 1843. M. Schlim more recently found the spotted-leaved variety in the valley of the Magdalena. With us, in a moist stove, this variety flowers readily in the summer months.

Descr. The *plant* grows in a tufted manner, sending up numerous and all radical leaves, a span and more long, of an obliquely elliptical form (the two sides unequal), shortly acuminate, the base obtuse, villous, petiolate; *petioles* long, slender, terete and having long sheathing bases, clothed with spreading hairs. *Scape* radical, arising from the sheathing bases of the leaves, terete, patenti-villous, terminated by a bracteated long *spike* of large yellow flowers. *Bracteas* large, imbricate, ventricose, villous, the apex acuminate and spreading. *Ovary* small, inferior, turbinate. *Calyx* of three, erect, lanceolate *sepals*. Tube of the *corolla* slender, curved. *Exterior petals* (or rather, exterior limb of the petal) of three lanceolate lobes: *inner* with the superior lobe large, broad, and retuse, *inferior* two-lobed. *Stamen* solitary: *anther* oblong. *Style* petaloid, curved.

Fig. 1. Ovary and calyx. 2. Tube of the corolla (laid open), with stamen and style:—*magnified.*

W Fitch del et lith.

Vincent Brooks Imp

Tab. 4974.

BEGONIA MICROPTERA.

Short-winged Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *microptera;* subglanduloso-villosa, caule erecto terete herbaceo viridi, foliis alternis subdistantibus ovato-lanceolatis acuminatis acute duplicato-serratis inæquilateris basi inferiore obtuse auriculatis viridibus subtus pallidis, venis rubris, petiolis brevibus (semiuncialibus), stipulis longitudine petioli lanceolato-subulatis membranaceis apiculatis, paniculâ terminali corymbosa, bracteolis lanceolatis ciliato-serratis, flore masc. tetrasepalo, sepalis 2 cordato-ovatis 2 oblongo-lanceolatis integerrimis, fœm. pentasepalo sepalis obovatis æqualibus serratis, fructu (vix matura) oblonga pubescente **angulis 2 exalatis tertio ala brevissima.**

The leaves of this species are very pretty, especially on the under side, where the bright red, prominent veins are very conspicuous; but the flowers, though numerous, are deficient in colour, neither are the stamens or stigmas of so deep a yellow as is usual with the *Begoniaceæ*. The peculiar character of the species is to be found in the very narrow wings of the fruit; two of the angles, indeed, can hardly be said to be winged at all, and the third has a very narrow wing, more so than in any species with which I am acquainted. It is a native of Borneo, whence it was imported by Messrs. Low, of Clapton, in whose stove it flowered in the month of December, 1856.

Descr. *Stems* a foot to a foot and a half high, terete, green or greenish, subglanduloso-pubescent, as is the rest of the plant, branched, branches few. *Leaves* subdistichous, four to nearly six inches long, ovato-lanceolate, subfalcate, inequilateral, acuminate, sharply duplicato-serrate, the inferior base of the leaf dilated into a large auricle; the colour a rather dark, full green above, beneath very pale green, with the prominent nerves bright red, and there is a red spot also at the base of the costa above. *Petiole* about half an inch long, red at the top, where it

unites with the leaf, almost concealed by the two, rather erect, lanceolato-subulate, apiculate, membranaceous *stipules*, equal in length with the petiole. *Panicle* terminal, corymbose, shortly pedunculate: *pedicels* red where they join the flower. *Bracts* ovate, acuminate, ciliato-serrate. MALE FLOWERS: *Sepals* four, spreading, two large cordate, two small oblong-lanceolate, all of them entire at the margin. *Stamens* about twenty, closely compacted. FEMALE FLOWERS: *Sepals* five, spreading, equal, obovate, moderately acute, serrated. *Fruit* or *capsule* (immature) oblong, triangular, downy; two angles sharp, wingless; the third with a narrow wing, a little broader upwards. *Styles* and *stigmas* as in the genus.

Fig. 1. Pedicel, with bracts and male flower. 2. Female flower:—*magnified.*





2.

Tab. 4975.

SYMPHORICARPUS MICROPHYLLUS.

Mexican Small-leaved Snowberry.

Nat. Ord. Caprifoliaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus globosus, *limbus* parvus, 4–5-dentatus. *Corolla* infundibuliformis, subæqualiter 4–5-loba. *Stamina* 5, breve exserta. *Stigma* semiglobosum. *Ovarium* adnatum, 4-loculare, *loculis* fertilibus 1-ovulatis, sterilibus pauci-ovulatis. *Bacca* calyce coronata, 4-locularis, *loculis* 2 vacuis, 2 monospermis.—Frutices *erecti, dumosi, opposite ramosissimi.* Folia *ovalia, integerrima.* Pedunculi *breves, axillares, uni- aut multiflori.* Flores *bibracteati, parvi, albi aut rosei, brevissime pedunculati. De Cand.*

Symphoricarpus *microphyllus;* floribus axillaribus solitariis, corollæ tubo elongato-infundibuliformi, foliis parvis ovatis subtus glaucis.

Symphoricarpus microphyllus. *H. B. K. Nov. Gen. et Sp. Am. v.* 3. *p.* 424.

Symphoricarpus montanus. *H. B. K. l. c. v.* 3. *p.* 425. *t.* 296. *Hensl. in Maund's Botanist, v.* 1. *t.* 20.

Symphoricarpus glaucescens. *H. B. K. l. c. p.* 424. *t.* 295.

Anisanthus microphylla. *Willd. in Roem. et Sch. Syst. Veget. v.* 5. *p.* 223 (*name only*).

The common *Snowberry* of North America, chiefly of Canada and the Northern United States, and of our gardens and shrubberies, is familiar to every one, with its interrupted spikes of small red flowers, which are succeeded by the large, pure white, waxy berries, remaining on the plant till almost mid-winter. The species here figured is a native of high mountains in various parts of Mexico, and was introduced by Robert Barclay, Esq., of Bury Hill, through M. Cervantes, Professor of Botany at Mexico, in 1829. It forms a small bush with us, and though, from the smaller size of the berries and the paler rose-coloured flowers, it is perhaps inferior to the last-mentioned species, yet the berries, having a pink blush upon them, render the plant equally attractive in the autumn. It is perfectly hardy, as may be expected, coming from an elevation on the mountains of Mexico, of 8000 or 9000 feet above the level of the sea; and flowers during most of the summer months.

April 1st, 1857.

I think I do not err in referring the *S. montanus*, as well as the *S. glaucescens* of H. B. K., to the *S. microphyllus* of the same author. This latter is the first of the published names, and therefore has the right of priority. The authors, in describing their *S. glaucescens*, remark, "Differt a præcedente (*S. microphyllus*) cui simillimus, præsertim forma foliorum et magnitudine omnium partium." These differences described are trifling indeed to what we find in our own common *Snowberry;* and with regard to *S. montanus*, the remark in the Nov. Gen. et Sp. Am., "*S. microphyllo* proximus: vix distinctus, nisi foliis floribusque multo majoribus." The figures of the two species there given might, as far as any differences even of size are discernible, be taken from one and the same plant. It may be some confirmation of our present opinion to say, that numerous specimens in our Herbarium, from different parts of Mexico, exhibit only one species.

Descr. A much-branching *shrub*, with twiggy, opposite, obscurely-angled *branches*, copiously leafy. *Leaves* opposite, small, on very short *petioles*, generally exactly ovate and acute, penni-nerved, glaucous beneath; sometimes broad-ovate, occasionally obtuse, always quite entire. *Flowers* axillary, solitary, scarcely longer than the leaves, and pointing downwards, so as to be much concealed by the foliage. *Bracteas* two, small, ovate, at the base of the ovary. *Calyx-limb* cup-shaped, five-toothed. *Corolla* tinged with pink, tubuloso-infundibuliform; *limb* more or less spreading, of five, broad, ovate segments: tube of the *corolla* hairy within. *Filaments* short, inserted a little below the sinuses of the lobes of the corolla. *Anthers* oblong, scarcely exserted. *Style* half the length of the corolla, swollen at the base. *Stigma* capitate, two-lobed, downy.

Fig. 1. Flower, with its bracteas. 2. Corolla laid open, with stamens and style:—*magnified.*



W Fitch del et lith.

Vincent Brooks Imp.

CAMELLIA RETICULATA; *flore pleno.*

Netted-leaved Camellia; double-flowered var.

Nat. Ord. Ternstrœmiaceæ.—Polyandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 2784.)

Camellia *reticulata;* foliis oblongo-ovatis acuminatis subopacis reticulatis, petalis amplis flaccidis undulato-plicatis patentibus, calyce pentaphyllo colorato, ovario sericeo.

Camellia reticulata. *Lindley, Bot. Reg. t.* 1078. *Hook. Bot. Mag. t.* 2784.

Double-flowered var. (Tab. Nost. 4976).

Dr. Lindley was assuredly quite correct in describing *Camellia reticulata* as a very distinct species from *C. Japonica.* Fine a plant as it is, and a native as it is presumed to be of China, does not appear to have been known in Europe till about 1820, nor to have flowered in this country till 1826. Not only are the leaves very different from those of *C. Japonica*, but the flowers also, the "petals being much undulated and irregularly and loosely arranged, with none of the compactness and regularity for which the *C. Japonica* is so much admired." Nor, it may be added, are the colours so brilliant. But that it is a first-rate ornamental shrub, if properly grown, will be readily conceded by all who have had the privilege of seeing the specimen in the conservatory of William Byam Martin, Esq., of Bank Grove, near Kingston, Surrey. Upon this* we made the following notes in 1849, and we know that it has increased in size and beauty since. "On the death of Sir John Broughton Bank Grove was purchased by Mr. Byam Martin, whose good taste and love of plants induced him to set a high value on the Camellias then on

* An excellent woodcut, representing the entire plant in flower, figures being introduced to show its relative height, was published in the 'Historic Times' for April, 1849.

April 1st, 1857.

the property. A skilful gardener was directed to give his best attention to them, and particularly to a fine specimen of *C. reticulata*, which was planted out with other shrubs in the conservatory, and was said to be one of the first introduced to this country. It was desirable to afford the latter more space; and, whatever the sacrifice might be, it was deemed expedient to remove the other Camellias, noble specimens in themselves, and devote the entire house to this individual. The consequence is that this has attained to very great perfection. Its height was (in 1849) thirteen feet, the spread of the branches was sixteen feet, and the circumference fifty feet! During the last ten years it has grown nearly ten feet. Unlike other really fine specimens of *reticulata* we have seen, the present one does not form a straggling bush, with leaves and flowers so sparse that the branches may everywhere be seen; but its beautiful and ample foliage, and its still more beautiful, and, for a Camellia, almost gigantic flowers (eighteen to twenty inches in circumference!) constitute a dense mass of rich green and red, mingled in such equal proportions that it is at first sight difficult to say which predominates, the flowers or the leaves. Every blossom seems to be in its right place, and the number of these is not the least remarkable feature of this unrivalled plant. In the beginning of October, 1848, the multitude of flower-buds was so great that it was requisite for the health of the plant that 2600 should be removed; and assuredly, though it was difficult to count them, nearly an equal amount (say 2000, and we are sure we speak within bounds) were allowed to remain: and these were in the perfection of blossom in April of 1849!"

This plant, now described, like all hitherto known in Europe, had the few and lax petals which are peculiar to this species. In January of the present year I received a plant of which a solitary flower is here represented, from Messrs. Standish and Noble, Bagshot Nursery. It was sent some years ago by Mr. Fortune from China, as a "double *reticulata*;" and it will be seen at once that the flowers, though retaining the size of the ordinary *reticulata*, are of a brighter colour, and the petals are twice as many, and of firmer texture, and disposed with much greater regularity.

2.

Tab. 4977.

CIRRHOPETALUM Medusæ.

Medusa's-head Orchis.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. Sepala ringentia; lateralia acuminata, longissima, valde obliqua, basi productæ columnæ adnata, supremo multo longiora. *Petala* nana, apiculata. *Labellum* integrum, cum basi columnæ articulatum. *Columna* minima, basi longe producta, apice bicornis. *Anthera* bilocularis. *Pollinia* 4, quorum duo interiora multo minora, per paria connata.—Herbæ *epiphytæ;* rhizomate *repente*, pseudobulbos *monophyllos gerente*. Folia *coriacea*, *avenia*. Flores *dense racemosi, nunc radiati, in apice* scapi *radicalis.—Lindl.*

Cirrhopetalum *Medusæ;* pseudobulbis ovatis tetragonis, folio oblongo convexo emarginato, vaginis scapi oblongis ventricosis supremo pedunculo longiore, floribus dense capitatis, sepalo supremo acuminato inferioribus longissimis pendulis, petalis triangularibus acuminatis, labello ovato-acuminato bicarinato, columnæ auriculis acutis.—*Lindl.*

Cirrhopetalum Medusæ. *Lindl. Bot. Reg.* 1842, *t.* 12.

Strange as are the forms of the flowers of many of the tropical *Orchideæ*, there are few which present a more remarkable appearance than the present. They are small, but so numerous in the spike, and two out of the three sepals are so very much lengthened, as to give the spike the appearance of a head with very long dishevelled hair, which has induced Dr. Lindley to call the plant the "*Medusa's-head Orchis.*" It is a native of Singapore, and was imported by Messrs. Loddiges to our stoves, where it flowers in the winter-months.

Descr. *Pseudobulbs* ovate, compressed but subtetragonal, dark brown, with one or more large brown scales at the base, and arising from a creeping, slender *caudex* or *rhizome*. *Leaf* solitary from the apex of the bulb, large for the size of the plant (five to six inches long), ligulate, obtuse or retuse, fleshy and subcoriaceous, tapering into a short, terete *petiole* at the base. *Scape* arising from the base of the pseudobulb, a span long,

erect or inclined, entirely clothed with large, membranaceous, concave, sheathing, pale-green *bracts*, terminated with a bracteated *capitulum*, or short, rounded, many-flowered *spike*, its *bracteas* linear-lanceolate acuminate. *Flowers* sessile, small, white or cream-colour, faintly spotted with fulvous-yellow or buff-colour. *Sepals* from a rather broad ovato-lanceolate base, tapering, the *superior sepal* into a comparatively short acumen: the two *lateral* into hair-like pendent apices, four to five inches long. *Petals* small, from a broad base subulate, longer than the column. *Lip* shorter than the petals, pressed to the base of the column. *Column* with two subulate, erect points, nearly as long as the petals, between which the *anther-case* is lodged.

Fig. 1. Flower (from which the long hair-like points are cut away for want of space to represent them in). 2. Flower, with the sepals removed. 3. Labellum:—*magnified.*



W. Fitch del et lith

Vincent Brooks Imp

Tab. 4978.

SONERILA elegans.

Elegant Sonerila.

Nat. Ord. Melastomaceæ.—Triandria Monogynia.

Gen. Char. Flores 3-meri. *Calycis* oblongi, subcylindrici, vel triquetri, rarius turbinati *dentes* simplices, acuti, sæpius breviores, persistentes aut sero decidui. *Petala* ovata vel oblongo-ovata, acuminata, nervo medio postice sæpissime piloso. *Stamina* 3, cum petalis alternantia, rarissime 6 et tunc alternatim inæqualia; *antheris* nunc subulatis aut linearibus, 1-porosis, nunc ovatis ovato- oblongisve obtusis biporosis interdumque admodum brevibus et quasi truncatis; *connectivo* infra loculos nullo, postice autem supra filamenti insertionem basilarem aut subdorsalem nonnunquam tuberculato. *Ovarium* omnino aut vix non omnino adhærens, triloculare. *Stylus* filiformis, stigmate punctiformi aut capitellato. *Capsula* calycis tubo persistente vestita, ut plurimum triquetra, apice umbilicata, 3-valvis. *Semina* magis minusve regulariter ovoidea aut pyramidata.—Herbæ *interdum suffrutescentes, in India orientali insulisque vicinis indigenæ, inter* Melastomaceas *ob flores trimeros memorabiles, habitu autem maxime heterogeno, caulescentes et subacaules, glabræ et hirsutæ;* foliis *haud infrequenter maxime inæqualibus et heteromorphis;* floribus *ut plurimum in racemos scorpioideos dispositis, purpureis aut violaceis rarius albis. Naud.*

Sonerila *elegans;* herbacea, ramis tetragonis, foliis longiuscule petiolatis ovatis acuminatis basi cordatis ciliato-serratis 5–7-nerviis parce pilosis discoloribus, pedunculis terminalibus cymoso-dichotomis ramis elongatis, floribus secundis, calycibus glanduloso-pilosis, antheris basi cordatis apice longe acuminatis.

Sonerila elegans. *Wight, Ic. Plant. Ind. Or. v.* 3. *t.* 995, 3. *Walp. Annal. Bot. Syst. v.* 1. *p.* 297.

Sonerila solanoides? *Naud. Melast. Monog. Tent. p.* 324–343. *t.* 18. *f.* 3.

A most lovely Melastomaceous plant, native of the Neilgherries, remarkable for the beauty of its leaves and flowers, and singular among that natural Family for the ternary arrangement of the parts of the flower. The leaves too are handsome, being purple on the under side, and the petioles are blood-red. We are obliged to Messrs. Veitch, of the Exeter and Chelsea Nurseries, (who have introduced the plant to their stoves) for the opportunity of figuring it. It appears quite to accord with the *S. solanoides* of Naudin, except that he describes his plant as

suffruticose; it comes also from the same country. Dr. Wight, the first describer, whose name we adopt, says it is abundant by roadsides about Sisparah, and a very conspicuous species. "At first," he observes, "a few pale pink flowers expand; these are followed successively by others as the branches elongate, until at length each branch is several inches long, covered along the upper edge with a row of capsules and two or three flowers at the extremity; the branches in the meanwhile extending horizontally and slightly approaching each other, present somewhat the form of the letter V." We have mature native specimens in our Herbarium, showing the correctness of this character as the fructification advances. With Messrs. Veitch, this plant flowered in the stove in January, 1857.

Descr. *Plant* probably a foot high, branched; the branches four-sided. *Leaves* opposite, on rather long red *footstalks*, four to five inches long, ovate, acuminate at the base, ciliato-serrate, hirsute, five- to nine-nerved, these connected by obliquely transverse nervelets, full dark and bright green above, reddish-purple beneath, where the nerves are prominent. *Peduncles* solitary, terminal upon the apex of the branches, and bearing a dichotomously divided *cyme*, and many flowers on the upper side of the branches. *Pedicels* short, thick, often tinged with red. *Calyx* oblong-triquetral, adherent with the ovary, and villous with spreading hairs, which are glandular at their tips; *limb* of three, triangular, spreading *lobes*. *Petals* three, horizontal, rather long, rose-colour, obovate, acute. *Stamens* three. *Filaments* deep red, nearly erect, subulate; *anthers* inclined downwards from a cordate base, tapering into a long apex, which forms a double tube communicating with the anther-cells. *Capsule* three-celled, with numerous small *seeds* attached to a receptacle in the inner angle of each cell. *Style* red, longer than the stamens, curved downwards.

Figs. 1 and 2. Back and front view of the stamens. 3. Calyx and pistil. 4. Transverse section of the immature fruit:—*magnified*.



W Fitch del et lith

Tab. 4979.

COSTUS Afer.

African Costus.

Nat. Ord. Scitamineæ.—Monandria Monogynia.

Gen. Char. Calyx tubulosus, trifidus. *Corollæ tubus* infundibuliformis, *limbi* laciniæ exteriores æquales, conniventes, interiores laterales nullæ: *labellum* maximum, campanulatum, dorso fissum. *Filamentum* petaloideum, supra antheram intramarginalem longe lateque productum. *Ovarium* inferum, triloculare. *Ovula* in loculorum angulo centrali plurima, horizontalia, anatropa. *Stylus* filiformis, inter antheræ loculos transiens; *stigma* bilamellatum, basi corniculis binis instructum. *Capsula* trilocularis, loculicide trivalvis. *Semina* plurima, arillata.—Herbæ *inter tropicos totius orbis, imprimis tamen Asiæ, repertæ;* radicibus *tuberosis, repentibus;* foliis *subcarnosis,* vaginis *petiolaribus supra folii insertionem in ocream oblique truncatam productis;* inflorescentia *spicata, terminali v. rarius radicali,* bracteis *imbricata. Endl.*

Costus *Afer;* foliis supra vaginam brevissime petiolatis elliptico-ovatis tenui-acuminatis, bracteis herbaceis muticis obtusis, calyce breve tridentato dentibus herbaceis muticis, filamenti dorso glabro.

Costus Afer. *Ker, Bot. Reg. t.* 683.

This plant, though till recently lost to our collections, was introduced from Sierra Leone, by seed, to the garden of the Horticultural Society, by the late Mr. George Don; but whether under the circumstances connected with its recent introduction in March, 1855, by Captain J. H. Selwyn, R.N., of H.M.S. Prometheus, I am unable to say. It was brought to this gentleman's notice on the west coast of Tropical Africa, as a specific against nausea. Living plants were, through the kindness of the Honourable W. Fox Strangways, presented to the Royal Gardens, accompanied by the following description:—

"This plant comes from the Isles de Los, about sixty miles north of Sierra Leone, west coast of Africa. It is valued by the natives as a specific against nausea, from whatever cause arising; and the part used is the stem, after stripping off the leaves, and peeling. The leaves however will probably be found to contain a considerable quantity of the active principle, as well as the stem,

though the latter alone is employed. It is eaten in the green state, and is perfectly harmless. The taste resembles that of the common *Oxalis Acetosella*. A peculiarity of its growth is, that it has no seed, nor does it propagate from suckers: but the flower-head, after shooting out its flowers, and by its weight bending the long stem to the ground, gradually withers, while a new plant arises from its base, and obtains nourishment from it, while forcing its roots into the soil, which is the light volcanic loam which is sent with it. The climate is dry heat from November to March, and rains more or less frequent during the other months, with almost constant heat. It is a very free grower in Africa, and therefore easily obtainable in any quantity, if found to be so valuable as it would seem for medicinal purposes. As far as I have the opportunity of trying it, it has been uniformly successful in relieving nausea. The leaves are dark glossy-green, the flower-head also; and the flowers are white, and yellow towards the mouth,—altogether a handsome plant.—*J. H. Selwyn.*"

It was easy to see, from the habit and foliage of the plant, that the plant belonged to the Scitamineous family, and the opinion was confirmed by a pencil-sketch of the flowering plant sent by Captain Selwyn. It produced its flowers in the stove in the month of September, and proves to be a *Costus*, and the *Costus Afer* of Ker in 'Botanical Register,' tab. 683; though that figure is evidently made from a very imperfect specimen, which gives no idea of the beauty of the blossom, which is large and white, and, as Captain Selwyn says, really handsome.

We have had no means of proving its remedial qualities; should it indeed possess them, they are probably rather attributable to the aromatic and stomachic properties which prevail in the Order, than to the acid. The roots of *Costi* are bitter, and have had a great reputation as tonics, but are now out of use; and Dr. Lindley says the *Costi* of Brazil have a subacid, mucilaginous juice, which is used in some disorders, and held in very great repute by the natives; but we are not aware that the property attributed to the present species is at all known to the faculty. We shall be happy if any one who has the inclination and opportunity will test the fact. The plant flowers readily in the autumn, and then the herbaceous stems die down till the following spring.

Descr. *Stems* clustered, two feet and more high, erect, simple, sheathed the whole length with the long vaginant *petioles*. *Leaves* almost a span long, ovato-elliptical, narrowly acuminate, costate, striated with a few slender *nerves* almost parallel with the midrib, the surface is often slightly transversely undulated: *petiole* short till it becomes the cylindrical sheath, and that is surmounted by a blunt *ocrea*. The apex of the stem has a crown

of leaves which gradually pass into the broad obtuse imbricated scales, forming the oval *spike* of flowers. *Calyx* membranaceous, funnel-shaped, three-lobed, *lobes* very obtuse. *Corolla* white, tinged with yellow: *outer limb* of three oblong segments, of which one is larger than the rest: *inner* reduced to one large, erect, convolute, cuneate segment, of which the apex is spreading, acute, irregularly lobed and laciniated. *Filament* large, petaloid. *Anther* large, inserted below the apex of the filament, oblong, having a groove in which the filiform long *style* is lodged: *stigma* when seen in front somewhat reniform, the margin beautifully fringed; and on the back is a smaller bifid appendage, parallel with it.

Fig. 1. Flower. 2. Portion of flower, showing the filament, anther, and style. 3, 4. Upper and side views of stigma:—*magnified*.



2.

3.

W Fitch del et lith .

Vincent Brooks Imp.

Tab. 4980.

COMPARETTIA falcata.

Sickle-leaved Comparettia.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. *Perianthium* ringens. *Sepalum* intermedium et *petala* nana, libera, subgalcata; lateralia in unum connata calcaratum labello suppositum. *Labellum* liberum, explanatum, obcordatum, unguiculatum, basi calcaribus duobus intra sepalorum calcar absconditis. *Columna* libera, erecta, mutica. *Pollinia* 2, postice foveata, caudiculæ cuneatæ rostratæ adnata.—Herbæ *epiphytæ, pseudobulbosæ;* racemis *terminalibus. Lindl.*

Comparettia *falcata;* foliis lanceolatis subfalcatis apice obliquis acutis, labello obcordato subrepando basi non lamellato, calcaribus subulatis nudis, columna medio sub stigmate mutico.

Comparettia falcata. *Pœpp. et Endl. Nov. Gen. et Sp. v.* 1. *p.* 42. *Lindl. Orchid. Linden. p.* 24.

It is upon the present species, a native of trees in Peru, found between Cassapi and Pampayaco, that Drs. Pœppig and Endlicher founded their curious genus *Comparettia*, after "*Andreas Comparetti*, a Professor at Padua, who first understood the real nature of spiral vessels, and who wrote with great skill on vegetable physiology." The genus is remarkable in the spurs of the flower. "Nothing," Dr. Lindley observes, "is more common than for *Orchidaceæ* to produce spurs from their sepals and labellum, but it is very unusual for the same organ to produce two spurs. *Satyrium* and *Diplocentron* were almost the only cases of this structure. Here, however, not only has the labellum two spurs, but they are hidden within the spur of the united pair of lateral sepals, so that they are not discovered till the latter is cut open. In this respect we find the same structure for *Orchidaceæ* as we have in *Aconitum* among *Ranunculaceæ*."

To this species of Pœppig, the *C. coccinea* of Dr. Lindley

(Bot. Reg. vol. xxiv. t. 68) is undoubtedly very nearly allied, "our plant differing however in the broader leaves," (scarcely as far as our specimens are concerned), "larger flowers, no elevated plate at the base of the stigma, and the smooth spurs of the lip." Our plant, which flowered in the stove in the Royal Gardens in December, 1856, was received from Mr. Linden, who collected the plant in the neighbourhood of Merida, Columbia.

Descr. *Pseudobulbs* smooth, oblong, clustered, more or less sheathed with scales. *Leaf* solitary from the apex of the pseudobulb, lanceolate, scarcely falcate, with an oblique twist, the apex acute. *Scape* from the base of the leaf, a span or more long, red, filiform, pendent (in our plant), bracteated at rather distant intervals with small, brown, appressed, and slightly sheathing *scales*, bearing a *raceme* of from four to six remote *flowers*, of a rich purple-red, almost crimson colour. *Intermediate sepal* and the *petals* free, concave; two *lateral sepals* combined into one, and placed under the labellum and spurred. *Lip* free, broad-obcordate, with an elevation in the claw (but not two lamellæ), at the base having two *spurs* which are lodged within the spur of the sepals, very much as the two spurs of the anthers in *Viola* are lodged with the spur of the petal, subulate, not ciliated. *Column* free. *Stigma* large, destitute of any plate at its base. *Anther-case* hemispherical.

Fig. 1. Flower. 2. Column and labellum with its two spurs. 3. Column:—*magnified.*

4981.



Tab. 4981.

BEFARIA Mathewsii.

Mr. Mathews's Befaria.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4433.)

Befaria *Mathewsii;* ramulis glabris subtomentosisve, foliis oblongo-ellipticis acutis subtus pallidis glaucis tomentellisque, racemis laxis subcorymbosis ferrugineo-tomentosis, pedicellis elongatis strictis bracteatis, calycibus 5–7-lobis basi tomentosis lobis acutis, petalis oblongo-spathulatis pallide sulphureis, staminibus styloque longe exsertis sursum curvatis, filamentis inferne hirsutis.

Befaria Mathewsii. *Fielding and Gardner, Sertum Plant. tab.* 69 (*before* 1844).

Befaria phillyreæfolia. *Benth. Plant. Hartweg. p.* 225 (1846).

The petals of many of the *Rhodoreous* group of *Ericaceæ* undergo such a change of colour in the process of drying for the Herbarium that it is there difficult to say what was the original colour in the living state. De Candolle says of the genus *Befaria*, "Flores sæpissime purpurei;" and I do not find that any species is described otherwise. In the present plant, the living specimens of which we have received from Messrs. Veitch's Nurseries (Exeter and King's Road, Chelsea), the flowers are sulphur-yellow. The species is now for the first time cultivated, having been raised by Messrs. Veitch from seeds, which were accompanied by specimens sent by Mr. Wm. Lobb from the mountains of Peru. It has appeared under two names: firstly as described and figured by Messrs. Fielding and Gardner from Mr. Mathews's specimens gathered in Chacapayos (n. 1424, 1425) and at Sesuya (n. 3039); and secondly by Mr. Hartweg in the Andes of Popayan, frequently at an elevation of 6–11,000 feet above the level of the sea (n. 1231). These, as well as Mr. Wm. Lobb's specimens, are assuredly one and the same species, but varying considerably in the size of the leaves (from three-quarters of an inch to two and two and a half inches), and somewhat in

the size of the flowers. It produced its flowers at the end of March, 1857, with Messrs. Veitch, and seems simply to require greenhouse-treatment.

Descr. A large *shrub* or small *tree* in its native regions, with terete, very woody *branches*, often tawny or reddish from the presence of copious tomentum of that colour, and which is more or less deciduous. *Leaves* tolerably copious, spreading or sub-erect, from three-quarters of an inch to almost three inches (in some rare instances) long, shortly petioled, oblong-elliptical, acute, glabrous and dark green above, beneath glaucous, and often subtomentose. *Flowers* on terminal, scaly peduncles, clothed with tawny tomentum, and bracteated with small, appressed, ovate, acute scales, racemose, or rather corymbose. *Calyx* short, cup-shaped, downy at the base, five- to seven-lobed; *lobes* erect, ovate, acute. *Corolla* of from five to seven oblong-spathulate, erecto-patulous, pale sulphur-yellow petals. *Stamens* ten, or rarely twelve, a good deal longer than the petals, curved upwards. *Filaments* subulate, hairy below. *Anthers* ovate, two-celled, opening at the apex by two pores. *Ovary* depresso-globose, five- to seven-lobed, five- to seven-celled. *Style* long, curved upwards. *Stigma* dilated, with a small five-lobed disc.

Fig. 1. Stamen. 2. Pistil. 3. Section of ovary :—*magnified.*



W Fitch del et lith

Vincent Brooks Imp

AERIDES cylindricum.

Cylindrical-leaved Aerides.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char.—*Perianthium* patens v. clausum. *Sepala* lateralia basi sæpius obliqua, cum ungue producto columnæ connata. *Labellum* cum ungue columnæ articulatum, saccatum vel calcaratum, trilobum; lobis lateralibus nanis; limbo cucullato, aut subulato, aut abbreviato-tumido, aut subfornicato. *Columna* in ovarium recumbens, brevis, aptera. *Anthera* bilocularis. *Pollinia* 2, postice sulcata; *caudicula* lata v. filiformi, *glandula* peltata, subrotunda.—Herbæ *epiphytæ, caulescentes.* Caules *subsimplices, radicantes.* Folia *distiche coriacea aut subcarnosa.* Flores *racemosi v. spicati. Lindl.*

Aerides *cylindricum;* caule gracili, foliis elongato-subulatis teretibus apice acuminatis supra linea angusta canaliculatis, floribus solitariis axillaribus, sepalis petalisque obovatis undulatis conformibus, labello alte trilobo, lobis lateralibus e lata basi inæqualiter bifidis erectis lacinia majore subulata, lobo medio bipartito unguiculato basi bilamellato, segmentis orbicularibus concavis crenatis.

Aerides cylindricum. *Lindl. in Wall. Cat. n.* 7317. *Wight, Ic. Pl. Ind. t.* 1744.

A flowering plant of this was received from Mr. Parker, of Hornsey, in February of the present year, 1857. Dr. Lindley refers it, and no doubt correctly, to his *Aerides cylindricum* in Wall. Cat. and Wight's Ic. Plant. Ind. Or. t. 1744, where it is stated to be a native of the Jyamally hills, Coimbatore. There are differences in the structure of the labellum, but not sufficient to justify the separation as a species. Our flowers were in excellent condition, and our figure accurately represents every part of the flower.

Descr. The *stem* of this is a foot and a half long, terete, flexuose, probably pendent if left to itself; clothed with the sheathing and striated bases of the leaves, of a purplish-brown colour. *Leaves* distant, an inch or more apart, four to six inches long, subulate, terete, with a sudden acumination at the point,

as if the upper half were cut away; a narrow line or furrow runs down on the upper side, from the base of this acumination to the sheaths. *Texture* harsh and rigid. *Flowers* lateral, solitary, rather large, white. *Sepals* obovato-cuneate, tapering below, so as to be almost unguiculate, spreading very much, undulated and almost crisped. *Petals* also spreading horizontally, similar to the sepals, but broader, less undulated in the lamina, but with a more decided twist in the claw. *Lip* of a very remarkable form, equally white with the rest of the flower, and spotless. It is primarily three-lobed: the lateral lobes are large, conspicuous, having an erect position from a broad base, subulate, and in themselves two-lobed, bearing a lesser irregularly-toothed lobe or segment near the inner base: *intermediate lobe* curved downwards, broadly obcordate, but suddenly tapering below into a broad claw, deeply two-lobed, each lobe almost orbicular, concave, crenulate: at the base the disc bears two elevated protuberances or laminæ, which are a little downy: the under side of the lip at the base is prolonged into a moderately large subulato-terete *spur*, greenish towards the apex: the tip red. *Column* short, destitute of wing or appendage, greenish, tinged with rose-colour. *Anther-case* helmet-shaped. *Pollen-masses* two, orbicular, with a cleft on one side:—*caudicle* long, arising from a triangular *gland*.

Fig. 1. Portion of leaf. 2. Lip and spur. 3. Column and anther. 4. Pollen-masses.

Tab. 4983.

BEGONIA HERACLEIFOLIA; *var.* NIGRICANS.

Hog-weed Begonia; blackish-leaved var.

Nat. Ord. Begoniaceæ.—Moncœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *heracleifolia;* acaulis, foliis subæqualiter cordatis profunde palmatis, lobis 7 lato-lanceolatis magis minusve acuminatis incisis serratisque ciliatis sublonge petiolatis, petiolis scapisque elongatis patenti-hispidis, panicula composita, corollis dipetalis, fructu trialato, alis 2 rotundatis brevibus tertia elongata ovata porrecta maxima.

Begonia heracleifolia. *Schlecht. et Cham. in Linnæa, v.* 5. *p.* 603. *Lindl. Bot. Reg. p.* 1668. *Grah. in N. Phil. Journ. Ed. July,* 1833. *Lindl. Bot. Reg. p.* 1668. *Hook. Bot. Mag. t.* 3444.

Gireoudia heracleifolia. *Klotzsch, in Begon. Gatt. und Art. p.* 94.

Var. *nigricans;* foliis nigro-variegatis.

Begonia punctata. *Link et Otto, Ic. Pl. Rar. p.* 17. *t.* 7. Begonia punctata *et* B. nigricans, *Hort. Berol.*

Gireoudia heracleifolia, β. punctata. *Klotzsch, in Begon. Gatt. und Art. p.* 95.

This is a very handsome variety, but assuredly nothing more, of the well-known *Begonia heracleifolia*, and justly recorded as such by our friend Dr. Klotzsch, in his beautiful work on the *Begoniaceæ* above quoted; yet it still continues to be dispersed as a species, sometimes under the name of *B. punctata*, sometimes under that of *nigricans*. It is a misfortune when a genus of plants becomes a favourite, as is just now the case with that under consideration, with cultivators: for then it becomes an object with horticulturists and nurserymen to multiply the species in all manner of ways; till at length, as with Cape Heaths, Cape *Geraniaceæ*, *Calceolaria*, etc. etc., to name them becomes a hopeless task. The present species is a native of Mexico; and the variety a very handsome one: the leaves being green, blotched with a deeper and almost black tint at the margins of the lobes: the petioles, scapes, and ramifications of the flower-stalks are tinged with red: the bracts are pale green, the

petals nearly white, and the broad wing of the fruit is rose-coloured. It flowers in winter.

Descr. *Rhizome* short, thick, horizontal. *Stems* none. *Leaf-stalk* three to five inches long, pale yellow-green tinged with red, hispid with patent hairs: at the base is a pair of broad triangular *stipules*. *Leaves* broad-cordate, with nearly equal sides, deeply palmate, with usually seven lobes which are broadly lanceolate, more or less acuminate, sinuato-incised, subserrate, ciliated; beneath slightly hairy, of a pale purplish-green; above deep green, much darker almost black at the margins. *Scapes* erect, much longer than the leaves, terete, hispid, bearing a moderately large *panicle* or compound *raceme*. *Bracts* large, ovate, horizontally patent, pale green, membranaceous. *Pedicels* slender, glabrous. *Male flowers* dipetalous; the *petals* white, suborbicular, concave. *Stamens* several, erect. *Filaments* short. *Anthers* elongated, linear-cuneate. *Female flowers* dipetalous: the *petals* nearly oval, also white. *Fruit* green, dotted: the *wings* rose-colour: two of them very short: the third elongated, very large, obscurely striated.

Fig. 1. Fruit, scarcely mature:—*magnified*.

Tab. 4984.

BEGONIA Griffithii.

Mr. Griffith's Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172).

Begonia *Griffithii;* acaulis, hispido-pubescens, foliis longe petiolatis oblique cordatis brevi acuminatis crenato-sinuatis pictis, scapis folio sublongioribus, floribus cymosis masculis tetra- fœmineis penta-sepalis, sepalis duobus interioribus minoribus exterioribus dorso convexis piloso-hispidis, fructu ovali hinc gibboso hispido alis duabus brevibus tertia basin versus ala majori cristæformi crenato-lobata.

We received this very beautiful *Begonia* from Messrs. Henderson, of the Wellington Road Nursery, St. John's Wood, under the name of *B. picta*, a name that must have been given to it by mistake, for it is extremely different from the well-known *B. picta* of Sir J. E. Smith, figured by us both in the 'Exotic Flora,' t. 89, and in the present work, Tab. 2962. A decidedly caulescent species. We find in our Herbarium specimens of a *Begonia*, in every respect corresponding with this, gathered by the late Mr. Griffith in Bhotan, whence, through some channel or other, the plants now in cultivation were probably derived. It flowers in the stove in the winter and spring months.

Descr. Stemless. *Leaves* rising directly from the subterraneous *rhizome*, large in proportion to the size of the plant, obliquely cordate, shortly acuminate, having a deep sinus at the base, forming two rounded lobes, which lap one over the other, the margin sinuate-crenate, hairy, the hairs short, rising from a small, pellucid tubercle, which gives a granulated appearance to the surface; colour a dark green, beautifully variegated; some way within the ciliated margin is a broad, pale green line, and the margin itself is dark purple, beneath the colour is pale green, but deep blood-colour in the centre and at the margin. *Leaf-stalks* nearly as long as the leaves, rather thick, red at the base,

glandularly downy. *Scapes* resembling the petioles, but longer than they, shorter than the leaves, though rising above them on account of the horizontal or deflexed position of the blade. *Cyme* few-flowered, with deciduous *bracts*. *Flowers* large, white internally. *Male flowers* of four sepals; *stamens* numerous, capitate; *female* of five *sepals;* in both cases the two innermost are smaller and generally narrower: the outer are cordato-subrotund, externally convex or ventricose, more or less downy, tinged with blush. *Fruit* or *capsule;*—the only one I have seen on the living plant;—of a peculiar form, obliquely oval, almost terete, hispid and somewhat tuberculated, with two narrow wings, and one large projecting one from the base, and there forming a crest, crenated at the edge: the whole fruit a good deal resembling the body and tail of a barn-door fowl. *Stigmas* large, green.

Fig. 1. Fruit:—*magnified*.



Tab. 4985.

THUNBERGIA laurifolia.

Laurel-leaved Thunbergia.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx brevis, cupulæformis, truncatus, v. pluridentatus, dentibus tam pluribus quam decem. *Bracteolæ* duæ ad basin calycis, calyce majores floremque ante anthesin valvatim tegentes. *Corolla* campanulato-infundibuliformis, fauce inflata, limbo quinquefido patente subæquali. *Stamina* 4, didynama. *Antheræ* erectæ, adnatæ, loculis parallelis margine ciliato-barbatis, altero basi paulo breviori iidemque in *calcar* aristæforme producto. *Stigma* infundibuliforme, transversim emarginatum, subbilabiatum. *Annulus nectariferus* crassus, lobatus, ovarium cingens. *Capsula* ad basin globosa, bilocellata, di-tetrasperma, superiora versus rostrato-attenuata, depressa, commissura plana contigua. *Dissepimentum* membranaceum, in centro cohærens, a valvis solubile. *Retinacula* nulla, quorum loco annulus cartilagineus basin seminum cingens, qui ex ambitu funiculi umbilicalis oritur. *Semina* globosa, basi callosa, perforata, funiculo umbilicali per foramen intrante. Cavum interius a parte hili convexum, post solutam partem callosam et fere osseam retinaculi vices gerentem extrinsecus marginatum. Membrana tenuis foraminis umbilicalis investit.—Frutices *vel* herbæ *scandentes, pleræque Indiæ orientali insulisque Indiæ orientalis, aliæ Africæ Australi insulisque Mascarenis indigenæ.* Folia *plerisque angulata, sæpe sicuti et bracteolæ hirta.* Flores *axillares, pedunculati, solitarii vel in* racemum *dispositi.* Corollæ *speciosæ, luteæ vel cæruleæ, fauce plerumque saturatiori. Nees.*

Thunbergia *laurifolia;* scandens, glabra, foliis longe petiolatis oblongo-ovatis acuminatis trinerviis petiolis basi (longe) apiceque incrassatis, racemis terminalibus axillaribusque nunc foliosis, pedicellis subverticillatis, bracteis amplis spathæformibus marginibus superioribus cohærentibus, corolla ampla, limbi lobis profunde emarginatis fere bilobis.

Thunbergia laurifolia. *Lindl. in Gardeners' Chron.* 1856, *p.* 260.

Two very striking new kinds of *Thunbergia* (of the same group with *Th. grandiflora*, Roxb.) have lately appeared in our gardens, both having a certain affinity, especially in the size and colouring of the corolla. The one we have now the pleasure of figuring: the other, much more beautiful than the present, will shortly form the subject of another plate. That now before us was first raised at Frogmore Gardens from seeds presented to Mr. Ingram by an officer, who brought or procured it from the

Malayan peninsula,—we presume so, at least, from the fact of our having since received and raised seeds of the same plant from Dr. Thomson, of the Calcutta Botanic Garden, collected in that region. These have produced fine flowering plants with us; but our drawing was taken from Mr. Ingram's plant. The name was given by Dr. Lindley, in the 'Gardeners' Chronicle,' above quoted, to specimens from Frogmore, which were exhibited at the rooms of the Horticultural Society of London in 1856. It is a plant of rather rapid growth, and flourishes in the stove, either trained against a back wall or beneath a rafter,—flowering at various seasons of the year, not unfrequently in early spring; and is really a striking object.

Descr. A climbing much-branching *shrub*, with the younger *branches* terete and green, glabrous. *Leaves* opposite, long petiolate, oblong-lanceolate, acuminate, entire, or sometimes a little toothed, three-nerved, reticulated with transverse nerves. *Petioles* two to three inches and more long, slender, remarkable for being incrassated both at the apex and at the base; at the apex the thickened portion is nearly terete; at the base the incrassation extends for a greater length, and is flattened or plane on the upper side, and even slightly winged. *Raceme* of flowers, both axillary and terminal, sometimes bearing a few flowers, and destitute of leaves; at other times the raceme consists of whorled flowers, with a pair of opposite leaves at the base, which are smaller than those of the stem. *Bracteas* of two vaginant leaves or large scales, resembling a spatha, open and free at the lower edge, adherent by the upper margin, faintly striated; this embraces the lower gibbous portion of the tube of the corolla. *Calyx* very small, cup-shaped, dotted. *Corolla* very large, pale blue, with a yellowish eye. *Tube* obliquely funnel-shaped, wide at the mouth. *Limb* very large, spreading, five-lobed; lobes rotundate, deeply emarginate, almost bifid. *Stamens* quite included, inserted near the base of the tube of the corolla. *Filaments* broad, subulate, curved. *Anthers* oblong, apiculate, fringed in front, and having two subulate spurs at the base. *Ovary* subglobose, sunk in a fleshy *disc* or cup, crenate at its edge. *Style* long, but included within the tube of the corolla; stigma bifid; each lobe channelled within.

Fig. 1. Stamens, including the pistil. 2. Calyx, cupular disc, and pistil:—*magnified.*



Tab. 4986.

ECHEVERIA canaliculata.

Channelled-leaved Echeveria.

Nat. Ord. Crassulaceæ.—Decandria Pentagynia.

Gen. Char. *Calyx* quinquepartitus; laciniis foliiformibus, erectis. *Corolla* perigyna, quinquepartita; laciniis erectis, crassis, rigidulis, nervo medio incrassato, basi subtrigonis acutis. *Stamina* 10, imæ corollæ inserta, inclusa. *Squamæ hypogynæ* breves, obtusæ. *Ovaria* 5, libera, unilocularia; *ovulis* ad suturam ventralem plurimis. *Capsulæ* folliculares, 5, in stylos subulatos attenuatæ, liberæ, intus longitudinaliter dehiscentes, polyspermæ.—Frutices Mexicani, *carnosi;* foliis *alternis, caulinis v. rosulatis suboppositis, integerrimis, enerviis;* floribus *secus rachin v. secus cymæ ramos sessilibus, coccineis v. flavis. Endl.*

Echeveria *canaliculata;* caule erecto crasso brevi, foliis rosulatis oblongis acuminatis crassis carnosis glauco-rufescentibus superne canaliculatis, ramorum elongatorum floriferorum foliis remotis minoribus angustioribus basi gibbosis, racemis elongatis bracteatis, sepalis lineari-lanceolatis patenti-recurvis, corollæ tubo brevissimo dilatato laciniis lineari-lanceolatis erectis apicibus subpatentibus.

Among the Crassulaceous plants the species of *Echeveria*, though straggling in habit when flowering, are eminently worth cultivating in our greenhouses. The flowers are often bright-coloured, and the leaves are very varied in form, thick and fleshy, more or less glaucous, and more or less tinged with red or purple. The present is not one of the least interesting, and makes a good appearance among its allies in the month of April in the succulent-house of the Royal Gardens of Kew. Plants of it were received from Mr. Staines from the Real del Monte mountains of Mexico, many years ago. I do not find any described species to correspond with it. Its nearest affinity is probably the *E. Scheerii* of Dr. Lindley (Bot. Reg. vol. xxxi. t. 27); but the rosulate leaves are widely different in the two, broadly spathulate in the latter, oblong and tapering and deeply channelled in our present species.

Descr. *Stem* short, thick, between fleshy and woody, erect, marked with the scars of fallen leaves. When not in a flowering state, all the *leaves* are rosulate, crowded, patent, four to six inches long, oblong or somewhat strap-shaped, thick, fleshy, tapering

gradually upwards into a very slender almost filiform point, deeply channelled above, semiterete beneath, glaucous but much tinged with purple. *Flowering stem* or *branch* elongated, one and a half to two feet high, its lower leaves the same as the rosulate ones, the rest are placed far apart (yet numerous), of the same shape, but smaller than the rest, with a gibbosity or blunt spur at the base beneath (not dilated like the rosulate ones), gradually passing upwards into small, very glaucous, oblong-obtuse *bracteas*. *Raceme* a span or more long. *Pedicels* half an inch or more long, with a few minute subulate *bracteoles*. *Calyx* of five, equal, linear-lanceolate, patenti-deflexed, glaucous *sepals*, much resembling the bracteas. *Corolla* nearly an inch long, rather bright brick-red, orange within. *Sepals* five, erect, close-placed, united at the base into a short dilated five-angled tube, the segments linear-lanceolate, the apices moderately spreading. *Stamens* quite included, five inserted at the base of the corolla, five smaller ones a little higher up. *Anther* oblong. *Ovaries* five, narrow, oblong, subcoadunate : at the base of each is a conspicuous, suborbicular *gland*, with a depression on the upper side. *Styles* slightly twisted. *Stigma* globose.

Fig. 1. Petal and three stamens. 2. Pistils and hypogynous glands :—*magnified*.

1987.



Vincent Brooks

GARDENIA citriodora.

Orange-smelling Gardenia.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4791.)

Gardenia *citriodora*; frutex glaber, ramis viridibus obtuso-tetragonis, foliis elliptico-lanceolatis subacuminatis petiolatis, stipulis e lata basi longe subulatis, corymbis axillaribus alternis plurifloris folio multo brevioribus, calycis lobis ovato-lanceolatis ciliatis intus sinubus glandulis 3, corollæ hypocrateriformis tubo brevi limbi lobis obovatis obtusis, stylo exserto superne incrassato, stigmate mitræformi, fructu ovali polyspermo.

Our first knowledge of this interesting plant was from dried specimens sent from Natal, both in flower and in fruit, by Mr. Guienzius, about the year 1849: and we have lately had the opportunity of making a drawing from a living plant in the possession of Messrs. Rollison, of Tooting, who imported it from Natal. It forms a handsome spreading evergreen shrub, about two feet high, with spreading branches and copious axillary white blossoms, of the size and with the general shape of those of the orange; and the delicious odour, not unlike that of the same favourite flower, suggested the specific name. It appears to be an entirely new species, and worthy of cultivation in a stove or a warm greenhouse.

Descr. Apparently a moderately-sized glabrous *shrub*, with terete or occasionally obtusely subquadrangular erecto-patent *branches*. *Leaves* opposite, subcoriaceous, elliptical-lanceolate, petiolate, acute rather than acuminate, penninerved, spreading. *Petiole* about half an inch long. *Stipules* large and conspicuous, from a broad and fleshy base, narrowly subulate, erect, appressed, half an inch and more in length. *Flowers* delightfully fragrant, aggregated in the axils of the leaves, subcymose; *peduncles* and *pedicels* very short. *Calyx* with the adherent tube oval; *limb* of five, erect, subulato-lanceolate, ciliated lobes, about equal in

length with the tube: within the limb and alternating with the lobes are three, small, oblong, sessile *glands*. *Corolla* hypocrateriform, white, the tube, about as long as the *limb*, is broad, yellowish; the latter of five spreading, oblongo-obovate *lobes*, tipped with pink; most so when in bud: mouth a little spreading. *Stamens* five, small, inserted near the mouth of the corolla. *Anthers* linear-oblong, yellow, exserted. *Style* as long as the tube of the corolla; *stigma* club-shaped, the stigmatic surface two-lipped, glanduloso-tomentose.

Fig. 1. Flower. 2. Calyx and pistil. 3. Glands, and one of the lobes of the calyx:—*magnified.*

Tab. 4988.

BEGONIA Wageneriana.

Wagener's Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *Wageneriana*; erecta, flexuosa, glaberrima, caule ramisque teretibus, foliis sublonge petiolatis inæquilateraliter cordatis brevi-acuminatis subnitidis læviter angulatis crenato-serratis, cymis longe pedunculatis repetitim dichotomis, floribus masculis disepalis, sepalis suborbicularibus, floribus fœmineis 5-sepalis, sepalis parvis viridibus oblongo-spathulatis subinæqualibus, bracteis 2 parvis oblongis ciliatis, capsulæ alis 2 angustis tertia maxima triquetra, stigmatis ramis elongatis spiraliter tortuosis.

Moschkowitzia Wageneriana. *Klotzsch, Begoniaceæ*, p. 77.

Native of Venezuela, where it was detected by Mr. Wagener, and sent to the Royal Gardens of Kew from the Berlin Garden under the name of *Moschkowitzia Wageneriana*. The genus is formed by our excellent friend Dr. Klotzsch in the work above quoted. Of course opinions will differ as to the importance given by this indefatigable botanist to the characters which constitute genera in *Begoniaceæ*. For ourselves we deem it to be the most accordant to nature to preserve the old genus *Begonia* (with perhaps some exceptions) intact, and consider the so-called generic distinctions recently suggested as sectional characters. At any rate, before such genera can be finally decided upon, the numerous species, comparatively unknown to Dr. Klotzsch, of India and other parts of the old world, should be taken into account. The present is a stove plant and a free flowerer, but rather of straggling habit. It is remarkable for the white or cream-white cymes of two-petaled (mostly) male flowers, and the pale-green cymes of five-petaled (mostly) female flowers, with their long twisted lobes or branches of the style. It flowers in the spring months.

Descr. Our growing *plants* of this are from one to two feet high, glabrous in every part, and of a palish-green colour. *Stems*

terete, succulent, weak, erect, with rather straggling *branches*. *Leaves* cordato-ovate, acuminate, with a deep sinus at the base, subpeltate, the margin obscurely lobed and more or less dentato-serrated. *Veins* radiating from the base. *Petiole* one and a half to two inches long, a little tinged with purple, as are the veins beneath, and generally the under side of the *young* leaves. *Peduncles* axillary and terminal, cymose, each *cyme* having generally a predominance of either male or female flowers, repeatedly dichotomous; *branchlets* spreading. *Male flowers* disepalous, *sepals* cordato- or reniformi-orbicular, white, spreading. *Stamens* forming a dense compressed *head*. *Female flowers* pentasepalous, each subtended by two, oblong, ciliated, appressed *bracteas*: *sepals* small, green, oblongo-spathulate, nearly equal. *Ovary* (or young fruit) turbinate, triangular, one of the wings elongated, ovato-triquetrous, acute, the two others short.

Fig. 1. Female flower:—*magnified*.



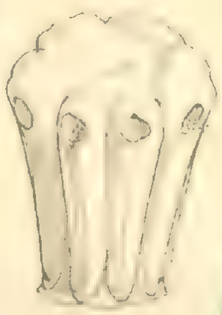
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W Fitch del et lith.

Vincent Brooks Imp.

Tab. 4989.

XANTHOSOMA SAGITTIFOLIUM.

Arrow-leaved Xanthosoma.

Nat. Ord. Aroideæ.—Monœcia Polyandria.

Gen. Char. *Spatha* basi convoluta, recta. *Spadix* interrupte androgynus; genitalibus rudimentariis infra stamina; appendice sterili nulla. *Antheræ* biloculares, plurimæ, connexivis conoideis truncatis verticillatim adnatæ (sessiles, *Schott*), discretæ; *loculis* contiguis, apice rimulis transversis apertæ. *Ovaria* plurima, conferta, *stylis* crassissimis placentæformibus inter se cohærentia, subquadrilocularia; *ovula* in loculis plurima, medio axi affixa, horizontalia (peritropia, *Schott*). *Stigma* latum, depressum, lobatum, flavo-glutinosum. *Bacca* . . . .—Herbæ Antillanæ; rhizomate *caulescente, erecto.* Folia *simultanea, sagittata.* Pedunculi *subsolitarii* (*breves*, Schott), *vaginati.* Spatha *flavescens. Kth.*

Xanthosoma *sagittifolium;* caudice brevi erecto, foliis late sagittato-ovatis acutis lobis baseos divaricatis obtusis, pedunculis petiolo brevioribus, spathæ amplæ (spadice longiores) tubo convoluto inflato viridi, lamina ovata concava breviter tenuiterque acuminata alba.

Xanthosoma sagittifolium. *Schott*, "*Melet. v.* 1. *p.* 19." *Ejusd. Syn. Aroid. p.* 56.

Caladium sagittifolium. *Vent. Cels. sub p.* 30. *Willd. Sp. Pl. v.* 4. *p.* 489.

Arum sagittifolium. *Linn. Sp. Pl. p.* 1369. *Jacq. Hort. Vind. v.* 2. *p.* 157.

Arum xanthorrhizon. *Jacq. Hort. Schönbr. v.* 2. *p.* 32. *t.* 188. *Plum. Plant. Am. v.* 1. *t.* 35, *et p.* 67. *p.* 106. *f.* 1. *Sloane, Jam. Hist. v.* 1. *t.* 106. *f.* 2.

The tropical Aroideous plants have not received from the scientific botanist that degree of attention to which they are entitled, especially when we consider the valuable property of so many species as esculents, if only the acrid and more or less poisonous properties are dispersed by the expression of the juice, or by its dissipation through heat. Nor are they less interesting in cultivation, in consequence of the noble and very varied foliage of many of them, the peculiar fructification, and often the delicious fragrance of the spathaceous flowers. That they have been generally ill-described in books, and incorrectly named in our gardens and in our herbaria, is notorious to every working botanist. The present plant, the *Arum sagittifolium* of Linnæus, well deserves a place in every stove when space and moisture can be given for the full development of the leaves and

flowers; and these leaves are often four or five times as large as the one here represented. The species is a native of tropical America, and was introduced to the Royal Gardens of Kew prior to the year 1710, from the West Indies, where, at least in Jamaica, according to Lunan, it is extensively cultivated as an esculent; little, if at all, inferior to the *Colocasia antiquorum*; "in wholesomeness and delicacy far superior to Spinach; and in this respect it may vie with any European vegetable whatever." It flowers in our stoves during the winter months.

Descr. Young *plants* of this are stemless, but in age, from the decay of the old leaves, an annulated *caudex* is formed, some inches in height, each throwing out stout fibres from the base, and from time to time producing offsets, by which the plant is easily propagated; or if suffered to remain, the plant becomes tufted, and numerous leaves are produced from the summit of the short yet stem-like trunks. *Leaves*, from a foot to two and almost three feet in length, broadly sagittato-ovate, suddenly and shortly acute at the point: the two lobes at the base broad-obtuse, between horizontal and deflexed: the *costa*, or principal *midrib*, is very stout and prominent, and sends two primary branches into the side-lobes: the secondary nerves diverge and anastomose; those near the edge unite with an intramarginal vein: *petiole* inserted in the bottom of the sinus, longer than the blade, terete, much sheathing at the base, and enveloping the leaf-stalks immediately within them: all green. *Peduncles* several, stout, terete, shorter than the petiole, bearing a large *spatha*, eight to ten inches, or more, long. The base of this spatha, from its convolute character, forms an inflated green tube, this suddenly expands into the cream-white, ovate, very concave, and finely but shortly-acuminated *limb*. *Spadix* shorter than the spatha, subcylindrical. The lower portion is coated with the green *ovaries*, which are connected together at the *collum* or neck of the *ovary*, a fleshy disc surrounding the stigma (fig. 4): these ovaries are subglobose, three- or four-celled, with many *ovules*. Above these, a space of two or three inches of the spadix is covered with *abortive anthers* of a flesh-colour, peltate fleshy bodies, plane at the top and angled at the sides: the rest of the spadix is entirely clothed with the peltate, yellowish, fleshy *stamens*, bearing the double cells of about five anthers at the sides, each opening by a pore at the apex.

Fig. 1. Spadix, *nat. size*. 2. Stamen. 3. Abortive stamen (from the middle of the spadix). 4. Two ovaries, showing how they are united at the collum or neck. 5. Transverse section of an ovary:—*magnified*.

W. Fitch del. et lith.

Hyacinthus Orientalis simplex.

Tab. 4990.

CYPRIPEDIUM HIRSUTISSIMUM.

Villous Lady's Slipper.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 4901.)

Cypripedium *hirsutissimum*; acaule, foliis distichis elongatis loratis acutis costatis enerviis basi carinatis canaliculatis equitantibus unicoloribus, floribus hirsutis, scapo bractea sepalisque dorso villosissimis, sepalo dorsali amplo latissime cordato-acuto, petalis amplis lato-spathulatis ungue profunde sinuato-lobato, sepalis lateralibus in unum ovatum coadunatis labello brevioribus, stamine sterili obtuse quadrato angulis obtusis.

Cypripedium hirsutissimum. *Lindl. MSS.*

A native of Java, we believe, and communicated to us by Mr. Parker, of Hornsey, who purchased it at a sale of East Indian plants. It is an extremely handsome species of the stemless group of *Cypripedium*, allied to *C. insigne*, *villosum*, *Lowii*, and *barbatum*; nevertheless abundantly distinct from all. The first of those just mentioned, "*C. insigne*, is only tomentose, and its petals want the spathulate form, long hairs, and strong undulation; *C. villosum* has longer flowers, no undulation or beard or ciliation of the petals, and has the sterile stamen truncate, not quadrate. Of *C. Lowii*, the long, flat, naked petals are quite different. *C. barbatum* has a circular, not quadrate, sterile stamen, spotted short leaves, and wants the shagginess. In *C. purpuratum* the sterile stamen is lunate, etc." (*Lindl. MSS.*);—to which may be added the marking of the flowers, and the colour, which is particularly rich, of various tints of purple and green, brighter and handsomer than in any species known to me. It flowered in the stove in April 1858.

Descr. Stemless. *Leaves* often a foot and more long, linear-oblong or ligulate, acute or bifid at the point, distichous, cari-

nated, channelled and equitant at the base, costate, but not conspicuously striated, of a uniform green colour, and quite glabrous. *Scape* about equal in length to the leaves, terete, green, tinged with dark purple, villous or rather shaggy, as are the *bractea*, *ovary*, and whole back of the *flower*, with long, spreading hairs, suggesting Dr. Lindley's specific name. *Bract* broad-ovate, sheathing, single-flowered. *Pedicel* short, almost included within the sheath. *Sepals* all ciliated; *superior one* broad, rhomboidal-cordate, the margins at length reflexed, dark purplish-green, striated, quite green at the margin. *Lateral sepals* green, united into one, of an ovate form, striated, shorter than the lip. *Petals* very large, spreading horizontally, broad-spathulate, ciliated, the lamina purple, the claw green, mottled and dotted with purple, singularly lobato-undulated at the margin. *Lip* large, deep green, with a tinge of purple, the margin ciliated. *Column* short, and, as well as the square *sterile stamen*, obtuse at the angles and with a swelling or boss in the centre, variegated with green and white, and spotted with dark purple.



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W Fitch del.et lith

Vincent Brooks Imp

Tab. 4991.

PUYA virescens.

Greenish-flowered Puya.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. Perigonii liberi sexpartiti *laciniæ* exteriores calycinæ, æquales, subconvolutæ, interiores petaloideæ, inferne convolutæ, apice patentim reflexæ, marcescendo spiraliter convolutæ. *Stamina* 6, hypogyna; *filamenta* subulata; *antheræ* incumbentes, lineares, basi emarginatæ. *Ovarium* liberum, trigonum, triloculare. *Ovula* plurima, in loculorum angulo centrali biseriata, horizontalia, cartilaginea, pyramidato-trigona, trilocularis, loculicido-trivalvis. *Semina* plurima, compressa, hinc anguste membranaceo-marginata.—Herbæ *in America tropica et Australia extratropica monticolæ;* caule *simplici, interdum subarboreo, folioso;* foliis *angustis, spinosis;* spicis *bracteatis, solitariis vel paniculatis. Endl.*

Puya *virescens;* acaulis, foliis inermibus lineari-lanceolatis breviter tenuissime acuminatis striatis basi dilatato-ventricosis, spica solitaria pedunculata (una cum pedunculo folia superantibus) laxa subcomposita bracteata, bracteis ovatis acuminatis superioribus obtusis pedunculi longissime acuminatis, floribus subsessilibus, petalis pallide-luteo-virescentibus lato-spathulatis limbo patente ungue nudo, filamentis cum ungue confluentibus, ovario supero.

A native probably of Venezuela or New Granada, communicated from the Belgian Gardens under the name of "*Puya*," to which genus we are willing to refer it, until the very difficult family of *Bromeliaceæ* shall have been judiciously revised by some competent authority. The materials for such a work are, comparatively speaking, but small in the herbarium, because they are difficult and troublesome plants to dry. Happily they are worthy of cultivation, and many unnamed species are, we believe, now in our stoves in the English and Belgian gardens. The present species flowered with us in March 1857.

Descr. A stemless *plant* of moderate size. *Leaves* one and a half to two feet long, from a dilated and somewhat ventricose base, broad-linear, sublanceolate, tapering rather suddenly to a short but finely acuminated point; the margin quite entire and unarmed, the colour a deep dull-green, the surface striated with close-placed parallel lines. *Scape* two feet and more high, leafy below, these leaves gradually passing into closely-placed

somewhat imbricating *bracts*, which form a broad sheathing base become much acuminated, subulate. *Spike* oblong, six to eight inches long, lax, somewhat compound, much bracteated. *Bracteas* of the spike broad-ovate, acuminated, the inner ones more obtuse: all of them are yellow-green, tinged and striated with red-brown. *Flowers* subsessile. *Calyx* of three, linear-oblong, submembranaceous, obtuse, entire, erect *sepals*, appressed to the narrow base of the corolla. *Petals* three, large, broad, spathulate, very pale-whitish, or pale-yellow-green colour, the *limb* spreading, the long *claws* slightly adherent at the margins. *Stamens* six. *Filaments* shorter than the petals, for the greater part of the length united and confluent with the claws. *Anthers* subsagittate. *Ovary* subpyramidal, obtusely trigonal. *Style* as long as the stamens, articulated near the base: *stigma* of three, cuneate, papillose lobes.

Fig. 1. Petal and two stamens. 2. Pistil. 3. Transverse section of ovary.

Vincent Brooks Imp.

Tab. 4992.

RHODODENDRON Veitchianum.

Mr. Veitch's Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Veitchianum*; foliis obovatis mucronato-acutis in petiolum brevissimum attenuatis supra nudis subtus glaucis sparse ferrugineo-squamulosis, floribus terminalibus 3–4, calyce brevi-quinquelobo lobis ovatis parce longe setosis, corolla ampla infundibuliformi-campanulata alba tubo brevi lobis profundis patentibus obovatis marginibus insigniter undulatis, staminibus 12–14, filamentis inferne glandulosis, antheris linearibus albis, ovario oblongo-ovato 5-loculari stylique basi squamulosis, stigmate dilatato 5-lobo.

This fine and new and very distinct species of *Rhododendron*, which we dedicate with singular pleasure to our excellent friend Mr. James Veitch, of the Exeter Nursery, but with which the name of the son, Mr. James Veitch, jun., of the Nursery, King's Road, Chelsea, cannot fail to be equally commemorated, was imported by those distinguished cultivators from Moulmein, on the Tenasserim coast. A fine flowering plant (from which our figure is taken) was exhibited at the Horticultural Society's Meeting in London on the 6th of May, and is thus favourably mentioned in the *Gardeners' Chronicle* of the 9th of May:—"Among other Rhododendrons exhibited by Messrs. Veitch is a new kind from Moulmein with pure white blossoms, measuring full five inches across, and crisped round the edges like *Azalea crispiflora*. This must be regarded as a valuable acquisition to the greenhouse varieties of this genus." And again in the following number of the *Gardeners' Chronicle* (May 16), in a report on the plants in Messrs. Veitch's Nursery at King's Road, Chelsea: "Among novelties may be mentioned the large white-blossomed *Rhododendron* from Moulmein, exhibited the other day to the

Horticultural Society: this we understand has been named by Sir W. J. Hooker *R. Veitchii*." The flower, though so large, is peculiarly *Azalea*-looking, and the writer in the *Gardeners' Chronicle* does well to compare the lobes of the corolla to those of *Azalea crispiflora*, Hook. (Tab. 4726). Its nearest affinity however is with *Rhododendron formosum* (see Tab. 4457, Wall.; Rhod. Gibsoni, *Hort.*), next to which it should perhaps be arranged in the genus; but it is abundantly distinct both in flowers and foliage.

Descr. Apparently a small or moderately-sized *shrub*, with the older branches clothed with reddish-brown glabrous *bark*. *Leaves* three to four inches long, truly obovate, coriaceous, acute, and even mucronate at the point; below tapering gradually into a very short footstalk, glabrous and naked above, glaucous beneath, and distinctly clothed with scattered, orbicular, red or ferruginous, resinous scales, the midrib more closely, and with the scales narrower and imbricated. *Flowers* three or four together from the apex of a branch. *Pedicels* scaly, as well as the outside of the *calyx*, which is five-lobed; the lobes short and ovate, bearing a few marginal bristles. *Corolla* very large, pure-white, between campanulate and infundibuliform; the *tube* short; the *limb* very spreading, of five, nearly equal, much spreading, obovate, deep lobes, their margins singularly waved and crisped. *Stamens* twelve to fourteen, arising from an hypogynous, lobed, annular *disc*. *Filaments* glandular below. *Anthers* linear, white. *Ovary* oblong-ovate, very scaly, as is the base of the *style*. *Stigma* dilated, five-lobed.

Fig. 1. Portion of the under side of the leaf. 2. Stamen. 3. Calyx and pistil and hypogynous disc. 4. Transverse section of ovary:—*magnified*.


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DENDROBIUM crepidatum.

Slippered Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *crepidatum*; caulibus elongatis erectis teretibus striatis, foliis oblongis acutis subcoriaceis, floribus geminis, sepalis oblongis obtusis, petalis orbiculari-oblongis, labello cordiformi-rotundato integro subsinuato obtuso retusove lateribus erectis intus pubescente venoso basi utrinque plicato, cornu brevi obtuso.

Dendrobium crepidatum. *Lindl. in Paxton's Fl. Gard. v.* 1; *Gleanings, n.* 99. *f.* 95 *(woodcut of flower only).*

This is a very lovely plant, recently (April 1857) communicated to us in a fine flowering state by Mr. Parker, of the Nursery, Hornsey. It is a native of India, probably of Assam or Khasya Hills, in Eastern Bengal. Dr. Lindley, in naming and defining it, as he has done in the work above quoted, takes the opportunity of mentioning its affinity with *D. Pierardi* and its allies; but it has a firmer texture in the sepals, petals, and labellum than any of these. He has since also alluded to a great resemblance with *D. cretaceum* (see our Tab. 4686), and like it we find the labellum in our plant to be emarginate or retuse at the point; but the flowers are much larger and more deeply tinged with pink and orange-yellow, wanting the cold chalky appearance of that species: the ovaries and pedicels too are longer and red. It first bloomed with Mr. Holford in 1850.

Descr. *Stems* six to eight inches to a foot and more long, firm, suberect, terete, striated, branching only at the very base, jointed, with the remains of a sheathing scale at the joints. *Leaves* few, and only upon the young and flowerless branches. *Flowers* large, white, tipped with blush, orange-yellow in the centre of the lip, arising from the joints of the naked (leafless) stems, generally in

pairs. *Pedicels* and slender *ovaries* rather long, red. *Sepals* spreading, oblong, obtuse. *Petals* similar to them, but broader and subrotund, also spreading. *Lip* nearly cordate, contracted into a claw at the base, entire, scarcely, or but very obscurely, three-lobed, obtuse or retuse at the point, plaited on each side at the base, forming a slipper-like cavity: the inner or upper surface is downy, except the disc, which is obscurely striated: the base externally forms a very obtuse *spur*. *Column* very short, decurrent to where it joins the labellum. *Anther-case* operculiform.

Fig. 1. Labellum. 2. Column. 3. Pollen-masses:—*magnified.*

Vincent Brooks Imp.

DORONICUM Bourgæi.

Bourgeau's Leopard's-bane.

Nat. Ord. Compositæ.—Syngenesia Superflua.

Gen. Char. Doronicum, *C. H. Schultz Bipont.* (Linn. *ex parte.*)—*Capitulum* multiflorum, heterogamum, *floribus radii* 1-serialibus, lingulatis, *fœmineis; disci* tubulosis, hermaphroditis, 5-dentatis. *Antheræ* ecaudatæ, appendice lanceolata terminatæ. *Styli rami* apice truncato-penicillati. *Involucri* 1–2-serialis *squamæ* herbaceæ vel coriaceæ. *Receptaculum* convexiusculum, nudum, reticulatum vel alveolatum. *Achenia* radii breve columnaria, utrinque paulo attracta, 10-costata, glabra, calva!, subpersistentia, majora quam achænia disci, turbinata vel columnaria, superne attracta, pilosa, omnia *pappo* coronata piloso, denticulato, 1–2-seriali, albente, persistente vel caduco.—Herbæ *perennes, paleogææ*, radice *repente, pl. filiformi*, internodiis *incrassata, fibris numerosis crassisque instructa et caulem proferentes pl. corymbo terminatum, rarius monocephalum, cum* foliis *alternis, suborbiculato-oblongis, inferioribus petiolatis, superioribus sessilibus vel cordato-auriculatis, sæpius pilis articulatis instructum.* Flores *flavi vel rubenti-violacei, rarius ligulæ albentes. Schultz Bipont.*

Doronicum *Bourgæi;* herbaceum erectum ramosum, foliis profunde cordatis sinuato-angulatis denticulatis simplicibus vel inferioribus lyrato-pinnatis, pinnis lateralibus parvis cordato-ovatis (terminali maxima cordata) omnibus superne glabris subtus arachnoideis albidis, petiolis basi (foliorum superiorum totis) lato-alatis, corymbis terminalibus compositis decompositisve amplis, **floribus purpureo-violaceis, acheniis disci pilosis, radii nudis.**

Doronicum Bourgæi. *Schultz Bip. in Bourgeau, Pl. Canarienses (ex itinere secundo)*, 1855, *n.* 1373.

A highly ornamental greenhouse plant, flowering during the spring months along with the purple-flowered species of *Cineraria* (or *Senecio*, for to that genus they are now generally referred) of the Canary Islands. It was detected by M. Bourgeau (now, happily for science, engaged on account of the British Government on an exploring expedition in North America) at Barranco del Angostura, in the Canary Islands, in 1855. Seeds were fortunately sent to the Royal Garden of Kew, where it proves to be easy of cultivation and a profuse flowerer. If M. Schultz has anywhere described the plant, we have failed to find

the description. Its nearest affinity is doubtless with *Doronicum Webbii*, Schultz Bipont. in Webb's 'Canarian Flora,' p. 333; but that is said to have the ray of the capitulum white, and to have the achenia of the disc, "inter omnes hujus sectionis species pilosissima." It will doubtless surprise others, as it assuredly did ourselves, to find this plant, which has so much in common with the other purple-flowered *Senecios* (or *Cinerarias*) of the Canary Islands, separated from those genera and transferred to *Doronicum;* but truly this (and some others of the same supposed group) has the essential character of *Doronicum*, viz. the achenia of the disc *with*, and that of the ray *without*, *pappus*. If these characters are of any value, such species cannot be retained in *Senecio*. Judging from Mr. Webb's figure (tab. 104, *Phytographia Canariensis*), *Doronicum cruentum*, Schultz Bip., should belong to *Senecio;* but Schultz explains the error in fig. 3 of that plate: "Flos radii cum achenio, cui *contra naturam* pappus additus."

Descr. The size of the plant doubtless varies much according to the soil, from one to two and a half and even three feet high, branched, generally glabrous. *Leaves* alternate, very variable; lower ones on long *footstalks* and lyrato-pinnate; *terminal pinna* very large, deeply cordate, acute, sinuato-angulate, the *lateral* ones very small, distant, opposite, cordato-ovate; *petiole* below winged on each side with a broad *auricle;* *upper leaves* gradually losing their lateral pinnæ, small, and the whole petiole is broadly winged or auricled and subamplexicaul; upper sides of the leaves glabrous, beneath white and cobwebby. *Flowers* in large, compound, somewhat leafy *corymbs;* *pedicels* with many, small, subulate *bracteas*. *Involucre* hemispherical, glabrous, destitute of bracteoles. *Corollas* of the ray palish purple, the *achenium* glabrous and destitute of pappus, those of the *disc* very deep purple, their *achenia* pilose, and the *pappus* nearly as long as the tubular floret.

Fig. 1. Floret of the ray. 2. Floret of the disc. 3. Hair of the pappus:—*magnified.*


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Tab. 4995.

FORSYTHIA suspensa.

Pendulous Forsythia.

Nat. Ord. Oleaceæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4587.)

Forsythia *suspensa ;* ramis elongatis laxis pendulis, foliis plerisque trifoliolatis serratis, floribus præcocibus, pedunculis elongatis, sepalis lanceolatis pistillo multo longioribus.

Forsythia suspensa. *Vahl, Enum. v.* 1. *p.* 39. *Spreng. Syst. Veget. v.* 1. *p.* 36. *De Cand. Prodr. v.* 8. *p.* 281. *Siebold et Zuccar. Fl. Jap. p.* 10. *t.* 3.

Syringa suspensa. *Thunb. Fl. Japon. p.* 19. *t.* 3. *Willd. Sp. Pl. v.* 1. *p.* 49.

Rengjo. *Kæmpfer, Amœn. Exot. p.* 907.

Charming flowering specimens of this rare and handsome plant were received in April 1857, from Messrs. Veitch and Son, of the Exeter and Chelsea Nurseries, which had flourished unharmed in the open ground, being equally hardy no doubt with the better known *Forsythia viridissima*, Lindl. (Tab. Nostr. 4587.) The present is the original species upon which the genus was founded, and the *Syringa suspensa* of Thunberg. From *Syringa* it differs not only in habit, but in the polyspermous (not dispermous) capsule. The present species, as we related under *Forsythia viridissima*, was introduced from Japan into Europe (Holland) so long ago as 1833, by Mr. Verkerk Pistorius, but appears only recently to be known in England. Siebold assures us that in Japan it is scarcely known but in a state of cultivation, and seems there to be derived from China. It is said to be easy of increase, "the pendent branches soon striking root, if only covered with earth." It must have a handsome effect trained against a wall, and its flowers are larger and handsomer than *F. viridissima.*

Descr. A straggling, much branched *shrub*, with the *branches* clothed with a red *bark*, some of them remarkably elongated and drooping. *Leaves* not appearing till after the flowering is accom-

plished, exceedingly variable, simple or trifoliate; the *leaflets* ovate or subrhomboid, serrated. *Flowers* large, handsome, yellow, arising from opposite, scaly buds. *Peduncle* elongated, often drooping and bracteated. *Calyx* deeply cut into four, lanceolate, erecto-patent lobes, large in proportion to the flower. *Corolla* large, bright-yellow, streaked with orange within the short tube, campanulate-rotate, segments oblong. *Stamens* two, as long as the tube and inserted at the very base of the corolla. *Anthers* ovato-subsagittate. *Pistil* small, much shorter than the calyx-lobes. *Ovary* globose, two-celled; *cells* many-seeded, attached to a longitudinal *placenta*. *Style* short. *Stigma* large, of two globose lobes.

Fig. 1. Corolla and stamens. 2. Calyx and pistil. 3. Transverse section of ovary:—*magnified.*

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W. Fitch del et lith.

Vincent Brooks Imp

Tab. 4996.

CIRRHOPETALUM Cumingii.

Mr. Cuming's Cirrhopetalum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4977.)

Cirrhopetalum *Cumingii*; pseudobulbis tetragonis, folio oblongo obtuso scapo breviore, umbella dimidiata multiflora, sepalo dorsali petalisque ovatis acuminatis fimbriatis, lateralibus lineari-lanceolatis, labello ovato 3-sulcato pone basin bituberculato. *Lindl.*

Cirrhopetalum Cumingii. *Lindl. Bot. Reg.* 1843, *sub tab.* 49. *Paxton's Mag. of Bot. v.* 8. *p.* 165.

Notwithstanding that this most lovely Orchideous plant has been known in our collections since 1841, when it flowered with the Messrs. Loddiges, it has never yet been figured. It is one of the many rarities imported from the Philippine Islands by Mr. Cuming, after whom it has been named by Dr. Lindley. The extreme regularity with which the flowers are arranged in the depressed umbel, spreading in a circle or a semi-circle, and the large size and position of the lateral sepals (not the labellum as stated in 'Paxton's Magazine of Botany') are not the least remarkable peculiarities about this plant. It flowers readily in the early spring.

Descr. *Pseudobulbs* small, oval or oblong, monophyllous, sheathed, with a large membranaceous scale, and arising from a creeping *caudex*, with a few fibrous *roots* thrown out from beneath the pseudobulbs. *Leaf* solitary from the apex of the pseudobulb, three to four inches long, oblong or elliptical, coriaceous, nerveless, tapering at the base into a very short *petiole*. *Scapes* solitary, slender, filiform, red, bearing about two minute sheathing *scales*, and arising from the base of the pseudobulb. *Flowers* most beautifully and regularly arranged in a radiating, almost exactly circular, *umbel*, all on the same plane, and of a rich warm red-purple colour. *Pedicels* very short, all equal in length, and,

as well as the *ovary*, red, with minute green *bracteoles* at the base. *Sepals* very unequal: *superior* one small, ovate, concave, very much and narrowly acuminated, fringed with long glandular hairs; *lateral sepals* an inch long, linear-oblong, shortly acuminate, projecting forward, and having a peculiar twist at the base which brings the outsides of these two sepals on the same plane, their inner edges meeting together like the elytra or wing-cases of some insect of the *Buprestis* kind, and which gives a very peculiar appearance to the flowers. *Petals* rather smaller than the superior sepal, but otherwise exactly resembling it, and fringed in like manner with glandular hairs. *Lip* small in proportion to the size of the flower, thick, fleshy, tongue-shaped, obtuse, having two erect plates or ridges on the disc, bent down in the upper half, the base articulated on the decurrent base of the column, which has there a peculiar upward curvature. *Column* short and thick, the sides projecting in the form of wings. *Anther-case* a little sunk into the top of the column. *Pollen-masses* in two oval pairs.

Fig. 1. Flower. 2. Column and lip. 3. Flower from which the upper sepal and about three-fourths of the lateral sepals are cut away. 4. Pollen-masses:— *all more or less magnified.*



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Tab. 4997.

RHODODENDRON Thomsoni.

Dr. Thomson's Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Thomsoni;* frutex cortice pallide papyraceo, foliis in ramos terminales coriaceis glaberrimis orbiculari-ellipticis obtusissimis apiculatis basi cordatis supra læte virentibus subtus glaucescentibus margine subrecurvo, petiolo gracili, corymbis plurifloris, pedunculis longitudine petiolorum, floribus radiatim patentibus cernuisve, calyce amplo cylindraceo-cyathiformi basi retuso inæqualiter lobato, lobis erectis obtusissimis, corolla intense sanguinea coriaceo-nitida, tubo elongato-campanuliformi, limbi lobis 5 patentisubrecurvis profunde emarginatis superioribus intus maculatis, staminibus 10, filamentis nudis, ovario conico-cylindraceo glaberrimo 6–10-loculari, stylo gracili, capsula calyce cylindraceo persistente $\frac{2}{3}$ tecta. *Hook. fil.*

Rhododendron Thomsoni. *Hook. fil. Rhod. Sik.-Himal. t.* 12, *et in Journ. Hort. Soc. of London, p.* 77.

β, *Candelabrum;* floribus pallidioribus, calycis brevioris marginibus ovariisque glanduloso-pilosis.

Rhododendron Candelabrum. *Hook. fil. Rhod. Sik.-Him. t.* 29.

Native of the inner and outer ridges of the mountains of Sikkim-Himalaya, abundant at elevations varying from eleven to thirteen thousand feet. Mr. Methven, of the Stanwell Nurseries, Bonnington Road, Edinburgh, was so fortunate as to flower this charming species in April of the present year (1857), and was so good as to transmit the specimen here figured. From the elevation at which this plant is found above the sea-level, it may be justly esteemed a hardy plant; but it must be understood that except we have the power of retarding the blossoms, we can only look for their proper development in unusually favourable seasons, save with the protection of a frame or cool greenhouse. The calyx affords a very distinct feature in this species, and although in the *Rhododendron Candelabrum* of Dr. Hooker it is much shorter than in the present plant, it has nevertheless the same general form and character, and that author has with pro-

priety considered the two as specifically the same. The plant is wholly destitute of the minute appressed scales so copious in many kinds of *Rhododendron*.

Descr. Dr. Hooker gives the following particulars of this species from native specimens:—"A *shrub* six to ten feet, or in damp woods, fifteen feet, high, but in the latter case spare and woody. Lower *branches* stout, a foot in diameter; upper slender, leafy, principally at the extremities. *Leaves* two to three inches long, very broad, much resembling those of *R. campylocarpum* (Tab. Nostr. 4968), only that in the latter the leaf-stalks are often glandular, here never. The texture of the leaves is coriaceous, but not very thick; the colour full green, below subglabrous, everywhere quite glabrous. *Flowers* in a *head* of six to eight together, from the ends of the short branches among the leaves, on *stalks* an inch or more long, which radiate as it were from a centre, spreading horizontally or curling downwards. *Corolla* remarkable from its almost unrivalled deep blood-colour and glossy surface, yielding only in those respects to *R. fulgens*, deeper-coloured than in *R. arboreum;* the *tube* elongated, often vertically compressed, two inches long; the *limb* large, spreading, five-lobed, the *lobes* notched, upper ones spotted within. This species is perfectly inodorous. In the base of the corolla is secreted much honey, which is not considered poisonous, like that yielded by *R. Dalhousiæ* and *R. argenteum*. The two latter species are said to render deleterious the wild honey which is collected during their flowering season."

Fig. 1. Calyx, including the pistil. 2. Stamen. 3. Ovary. 4. Transverse section of the same. 5. Ovary included in the persistent calyx:—*nat. size*.

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Vincent Brooks Imp.

THUNBERGIA Harrisii.

Lord Harris's Thunbergia.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4985.)

Thunbergia *Harrisii*; scandens glabra, foliis breviuscule petiolatis ovato-acuminatis trinerviis integerrimis vel subsinuatis, petiolis marginatis basi apiceque vix incrassatis, racemis terminalibus compositis amplis, pedicellis verticillatis, verticillis plurifloris nunc remotis, bracteis amplis spathæformibus marginibus superioribus cohærentibus, corolla ampla, limbi lobis rotundatis integris.

We intimated, under our description of *Thunbergia laurifolia*, Lindl. (Tab. Nostr. 4985), that it was our intention shortly to figure another *Thunbergia*, more beautiful than that, but belonging to the same section or group as that, "calycis limbo truncato," and we now redeem that pledge. About the same time with the introduction of *Th. laurifolia*, direct from the Malayan Peninsula, we received seeds from his Excellency the Right Hon. Lord Harris, Governor of Madras, marked as a "new and very beautiful *Thunbergia*." From these seeds have been raised the plant here figured, which has flowered copiously with Messrs. Veitch, of the Exeter and Chelsea Nurseries, to whom we had given plants during the winter and spring months of 1857. On writing to our noble friend for some further information, he informs us it is considered at Madras to be the *Heracantris acuminata* of Nees, in De Cand. Prodr. vol. xi. p. 61. If this were really so, that name should undoubtedly be adopted; but I think it will appear that the name is totally unworthy of adoption, when I state that that supposed species is made up from two plants, both miserable specimens *without flowers*, one from Sylhet, in the Wallichian Herbarium, the other from Mergui (Griffith),

in our own herbarium; and it would appear that they are referred to *Hexacentris*, from a resemblance in the foliage to that of *H.* (or *Thunbergia*) *coccinea*. Indeed, Dr. Wallich himself called it "*Th. coccinea?*" Assuredly too our plant is a true *Thunbergia*, and no *Hexacentris*, if that genus be a sound one. Under these circumstances we feel quite justified in dedicating it to the nobleman who has first introduced it to Europe, and who has so much served the cause of science both in the West and the East Indies. Its close affinity with *Th. laurifolia* (and besides the distinctions indicated in the above specific character, the colour of the flower is different, much more rich and varied and beautiful) would lead us to suspect its native country to be the Malay Peninsula;* and since, in foliage, it corresponds with Mr. Griffith's plant, just mentioned, of the Tenasserim coast, I wrote to my botanical friend the Rev. C. S. P. Parish, at Moulmein, on the same coast, to make inquiry if such a plant were found there. His reply seems clearly to point either to this species or to its near ally *Th. laurifolia*. I should infer the former, from its very high merits. "Certainly we have a very splendid *Thunbergia* in Moulmein. It is a common plant here, and the jungles, especially those in the neighbourhood of Tavoy, are full of it. It flowers in January, indeed throughout the cold season; and as it is a rampant climber and free flowerer, adds much to the beauty of the jungle. I knew it was an undescribed plant, *i. e.* that it had not appeared in any published Flora; but as it had been for some few years introduced to the neighbourhood of Calcutta, I imagined that you must have known all about it, and possessed plants long ago, otherwise I should certainly have called your attention to it. If it grows at home as it does here, no hothouse, except your splendid one, will hold it. It is indeed a fine thing; but I have never seen seed. It is in my garden, running all over a Jack-tree, and in a neighbour's, but neither here nor there does it ripen a seed. I brought my plant, when young, from the jungle." For ourselves we do not find it difficult to keep this plant within bounds in our stoves.

The different form of the leaves and petioles, the different and more compound inflorescence, the shorter and whorled pedicels, larger and differently coloured flowers, will distinguish this from *Th. laurifolia*. Its flowering season has hitherto been the winter or early spring, the same season indeed as the *Amherstia* bears its rich scarlet and yellow flowers.

Descr. A glabrous scandent *shrub*, requiring to be attached

* At the moment of going to press, a letter from our excellent friend, Dr. Cleghorn of Madras, informs us that he detected this plant and conveyed the seeds to Madras while accompanying his Excellency Sir P. Grant to the Tenasserim coast: **common at Rangoon and Moulmein.**

to a wall, a beam, or trellis-work, with terete *branches*, and distantly placed opposite petiolated *leaves*, in form ovato-lanceolate, narrowly acuminate, slightly sinuato-dentate, three-nerved, obtuse or even truncate at the base; *petiole* rather short, thick, angled. *Racemes* peduncled, either axillary, solitary, and short, or terminal and elongated, many-flowered, drooping; *pedicels* several, in interrupted *whorls*, shorter than the flowers, often two from the same point, thickened, each with a minute *bract* at the base, and terminated by two very large *bracts* at the base of the flower, half as long as the tube of the corolla, oblong-ovate, convex, gibbous below, with oblique, acute points, striated and dotted with minute, black, sessile *glands;* the upper margins are united for nearly their whole length, so that the two form a bifid *spatha*, split open on the lower edge by the time the large handsome flower is fully expanded. *Calyx* little more than the slightly expanded turbinate apex of the pedicel, often punctate. *Corolla*, with the *tube* campanulate, tawny, gibbous below, contracted near the base, *limb* very large, spreading almost horizontally, of five subequal rounded lobes of a bright purplish-blue colour, very pale beneath; *faux* open, yellow, fading into white at the base of the limb. *Stamens* four, nearly equal, inserted near the base of the tube where the contraction takes place, included. *Filaments* very much dilated above the base, curved; *anthers* oblong, apiculate, two-celled, the face clothed with very long, spreading hairs, and each cell at the base has two spreading spurs, sometimes both long and equal, sometimes one is nearly obsolete. *Ovary* broad-ovate, sunk into a large, thick, annular *disc*, as large as the calyx; *style* as long as the tube of the corolla, flexuose and slender at the base, thickened upwards, and expanding into a trumpet-shaped but two-lobed *stigma*, of which the sides are pressed in on the upper lobe.

Fig. 1. Lower portion of the corolla, with stamens. 2. The minute calyx. with the large thick annular disc and stamens :—*magnified.*

Vincent Brooks Imp.

Tab. 4999.

TYDÆA amabilis.

Handsome Tydæa.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calycis tubus ovario adnato, laciniis 3 parum inæqualibus. *Corolla* in calyce obliqua, fauce leviter inflata curvula, limbi obliqui laciniis patentibus. *Ovarium* apice libero attenuatum. *Glandulæ* 5, distinctæ v. plus minus in annulum confluentes. *Stigma* bifidum.—Herbæ *bulbillis squamosis subterraneis, more* Achimenum, *perennantes;* caulibus *erectis, ramosis, herbaceis;* foliis *oppositis, haud disparibus, petiolatis, dentatis;* floribus *axillaribus vel in* thyrsum *terminalem basi foliosum digestis, speciosis. Decaisne.*

Tydæa *amabilis;* tota pilis mollibus longiuscule hirsuta, foliis ovatis acuminatis acutis crenato-serratis supra viridibus secus nervo fusco-viridi variegatis subtus vinosis, pedicellis axillaribus multifloris folio longioribus, laciniis calycinis ovatis tubo subæqualibus, corollæ amœne purpureo-roseæ limbo maculis punctiformibus lineiformibusque purpureis picto. *Planch.*

Tydæa amabilis. *Pl. et Lind. in Lind. Cat. Hortic. ann.* 1835. *Van Houtte, in Fl. des Serres,* 1855, *t.* 1070.

The type of the genus *Tydæa* is the well-known *Achimenes picta* of our gardens, and has been separated from the other species of *Achimenes* by Professor Decaisne. Our plant now figured has so many points in common with that species, that one would almost take it for a hybrid variety, were it not that Mr. Linden, by whom it was originally imported, assures us it is a native of Popayan, in New Granada, where it was discovered by M. Triana, in 1855, in the cold regions of the Cordillera, at altitudes of from eight thousand to nine thousand feet above the level of the sea. Linden therefore considers it a greenhouse plant. It is very handsome, a ready flowerer, and easily increased by its scaly, subterraneous bulbils. With us, it blossoms in the spring months. Save in the colour of the flower—throughout a deep rose—it is difficult to detect a character by which this may with certainty be distinguished from *Tydæa picta.*

Descr. *Stem* one to two and more feet high, erect, terete, herbaceous, greenish-purple, clothed with soft, spreading hairs.

Leaves also soft with hairs, opposite, ovate, bluntly dentato-serrate, moderately acuminate, rather dull green, reticulately veined, and blotched with dull purple along the principal veins, beneath very pale-green, vinous-coloured along the nerves. *Petioles* about an inch long, stout, with purple lines along the upper margins. *Peduncles* axillary, solitary, as long as, or the superior ones much longer than, the leaves, erect, clothed with long, soft, spreading hairs, terete, purple below, the rest pale green. *Calyx* very hairy or rather villous; the short turbinate *tube* adheres to the lower half of the ovary; *limb* oblique, of five, spreading, triangular segments. *Corolla* large, very villous, pendent; *tube* long, slightly curved, ventricose, infundibuliform, the mouth very oblique; *limb* of five, large, unequal, spreading, rounded, *lobes;* the *colour* dark rose, the limb dotted with purple, and the tube within paler-coloured, but marked with larger dots and blotches. *Stamens* five; *filaments* downy: there is a very small fifth *abortive stamen*. Free portion of the *ovary* ovate-globose, very villous, with five, large, conspicuous, erect, linear *glands* at the base. *Style* shorter than the tube of the corolla, thick. *Stigma* bifid, upper segment the shortest.

Fig. 1. Stamens. 2. Pistil and hypogynous glands:—*magnified*.



Vincent Brooks Imp.

Tab. 5000.

BURTONIA scabra.

Rough-leaved Burtonia.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. Calyx profunde quinquefidus v. quinquepartitus, subæqualis. *Corollæ* papilionaceæ *vexillum* breviter unguiculatum, *alis* obovato-oblongis longius; *carina* alas subæquans, incurva, acutiuscula v. subrostrata. *Stamina* 10, libera; *filamentis* glabris. *Ovarium* sessile, biovulatum. *Stylus* sæpius e basi dilatata subulatus, glaber vel hinc barbatus; *stigma* tenue, imberbe. *Legumen* ovatum v. subrotundum, subventricosum. *Semina* estrophiolata.—Frutices *v.* suffrutices Novæ-Hollandiæ; foliis *sparsis, simplicibus v. trifoliolatis, subulatis, integerrimis;* stipulis *nullis;* floribus *ad apices ramulorum glomeratis, v. terminalibus corymbosis;* pedicellis *brevibus, bibracteolatis. Endl.*

Burtonia (§ Euburtonia) *scabra;* foliis erectis trifoliolatis, foliolis subulato-linearibus scabris subaduncis muticis, ramulis teretibus pubescentibus.

Burtonia scabra. *Br. in Hort. Kew. ed.* 2. *v.* 3. *p.* 12. *De Cand. Prodr. v.* 2. *p.* 106. *Lehm. Plant. Preiss. v.* 1. *p* 41.

Gompholobium scabrum. *Smith, in Linn. Soc. Trans. v.* 9. *p.* 250.

More than half a century ago this very lovely plant, a discovery of Mr. Menzies, at King George's Sound, was living and flowering at the Royal Gardens at Kew, having been introduced in 1803 by Mr. Peter Good. No figure of it however was ever published, and it appears to have been lost to our collections for a great number of years past, though other species, nearly as handsome, have taken its place, among which we may mention *Burtonia pulchella*, Meisn., figured and described at our Tab. 4392, and *B. villosa*, Meisn. (Tab. Nostr. 4410). The present species undoubtedly boasts the most brilliant flowers of any known to us, and is well distinguished by the singularly scabrous surface of the leaves, all rough with minute hard papillæ. It is moreover the species on which the genus *Burtonia* was founded by Mr. Brown. It was first noticed as a *Gompholobium* by Sir J. E. Smith in the Linnæan Transactions, above quoted; but as his knowledge of the plant was derived from a drawing only, he had not the materials for determining correctly the genus. Our plant

here figured was received from the Botanic Gardens of Trinity College, Dublin, in May of the present year, through the kindness of Mr. Bain, the curator, and very able successor to the venerable Dr. Mackay. Seeds were received from King George's Sound by Archbishop Whately from his late friend Mr. Phillips, of King George's Sound, and by his Grace given to Mr. Bain, who raised them very successfully. It produces its lovely flowers in a well-aired greenhouse.

Descr. A small heath-like *shrub*, with erect, rather virgate, but not elongated, stiff, slightly downy *branches*, clothed with erect imbricated leaves. *Leaves* alternate, glabrous, divided to the very base into three, shortly petiolulated, linear-subulate, rigid *leaflets*, somewhat uncinate, but muticous at the apex; the margin closely reflexed, the surface very rough with minute hard papillæ, resembling the surface of a file. *Stipules* broad, membranous, ciliated. *Flowers* from the axils of the leaves, but several arise close together in a pseudo-verticillate manner from near the apex of the branches; very handsome. *Pedicels* short, bracteolate. *Calyx* glabrous, ciliated at the margin, and spotted with black dots at the apices of the lobes. *Vexillum* spreading, rich purple, yellow above the claw. *Alæ* blood-red; *carina* yellowish. *Ovary* hairy. *Style* subulate.

Fig. 1. Leaf. 2. Apex of ditto. 3. Flower and bracteolated pedicel. 4. Vexillum. 5. One of the alæ. 6. Carina. 7. Pistil:—*all more or less magnified.*

W.Fitch. del et lith.

Vincent Brooks Imp.

Tab. 5001.

CŒLOGYNE elata.

Tall Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala conniventia v. patentia, libera (nunc invicem agglutinata), æqualia, petaloidea, sæpius basi obtusa. *Petala* conformia, aut multo angustiora. *Labellum* cucullatum, trilobum v. indivisum, petaloideum, basi sæpe saccatum, venis 2–3 pluribusve parallelis cristatis, nunc cum basi columnæ connatum. *Columna* erecta, libera, alata, apice membranaceo-marginata. *Stigma* prominens, alte excavatum, bilabiatum. *Pollinia* 4, libera, incumbentia, materie granulosa, cohærentia. *Anthera* infra apicem columnæ inserta, mobilis, vix decidua.—Herbæ *epiphytæ vel terrestres*, Asiæ *tropicæ*, *pseudobulbosæ*. Folia 1–2, *nervosa*. Racemi, *aut flores solitarii*, *terminales*, *sæpe e squamis corneis erumpentes*. Flores *albi rosei flavidi aut brunneo-maculati*, *immo virescentes*, *sæpissime speciosi*. ***Lindl. Fol. Orchid.***

Cœlogyne (§ Proliferæ) *elata;* pseudobulbis oblongis angulatis, foliis oblongis coriaceis basi attenuatis longe petiolatis, scapo stricto foliis breviore apice squamis distichis coriaceis vaginato, racemo rectiusculo sessili, bracteis lanceolato-navicularibus cito deciduis, petalis lineari-lanceolatis, labelli plani medio bicristati lobo medio cordato-ovato crenulato lateralibus obsoletis. *Lindl.*

Cœlogyne elata. *Lindl. in Wall. Cat. n.* 1959; *Gen. et Sp. Orchid. p.* 40; *in Wall. Plant. Asiat. v.* 3. *p.* 12. *t.* 218; *in Bot. Reg.* 1839, *Misc.* 151.

Cœlogyne. *Griffith, Ic. t.* 290 (*Lindl.*).

A plant of Bootan, first discovered by Dr. Wallich in Nepal and Sylhet, then detected in Bootan, and figured by the late Mr. Griffith, but without assigning to it any specific name. It was subsequently found in Sikkim-Himalaya by Dr. Hooker, at elevations of from 4000 to 6000 feet above the level of the sea; and at Kamaon, in the Sarjee Valley, at 3700 feet, by Messrs. Strachey and Winterbottom. The specimen here figured was sent to us by Mr. Parker, of the Nursery at Hornsey. It belongs to a remarkable group of *Cœlogyne*, "all of which agree in having a number of hard imbricated scales immediately below

the flowers" (resembling what are seen in some species of *Antholyza*), "and not at the foot of the scape. They often, perhaps always, produce a second scaly sheath beyond the first series of flowers, and out of that sheath arises a second series of flowers." With us its flowering season is in April. Dr. Lindley considers this perhaps the finest of the genus.

Descr. *Pseudobulbs* oblong, compressed, angulato-sulcate, when young scaly at the base, bearing two or three large sword-shaped, striated, coriaceo-membranaceous, acuminated *leaves*, a foot and a half and more long. *Scape* terminal on the bulb, arising from between the leaves, shorter than the leaves, clothed, below the rather long *spike* of eight to ten flowers, with opposite, large, closely imbricated, brown, hard, obtuse *bracteas*. The *floral bracteas* are long, subcarinate, membranaceous, very deciduous. *Flowers* large, cream-white, drooping. *Sepals* and *petals* spreading, narrow-lanceolate, the latter the smallest and narrowest. *Lip* large, beautifully spotted and blotched with orange in regular figures, obovate, acute, very indistinctly three-lobed; disc plane, with three, slightly elevated ridges, and furnished with two, remarkably beautiful, long, waved, and crisped white *crests*: dotted at the edge with blood-red, commencing at the base of the lip, and terminating as far as the orange blotch extends. *Column* elongated, winged upwards. *Anthers* sunk in the *clinandrium*.

Fig. 1. Labellum. 2. Column:—*magnified*.


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Tab. 5002.

RHODODENDRON CALOPHYLLUM.

Handsome-leaved Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *calophyllum*, Nutt.; fruticosum, foliis brevi-petiolatis oblongo-ovatis subellipticis insigniter acutis basi rotundatis subtus glaucis (ætate ferrugineis) squamosis, corymbis 4–5-floris, calycis laciniis brevibus rotundatis, corolla ampla tubuloso-campanulata alba, staminibus 20, filamentis glabris, ovario squamoso, capsulis cylindraceo-ovatis obtusis 10-locularibus.

Rhododendron calophyllum. *Nutt. in Kew Gard. Misc. v.* 5. *p.* 362.

It was a matter of surprise and of interest to botanists and cultivators, that during Dr. Hooker's exploration of the mountains of Sikkim-Himalaya, he should have detected no less than forty-three species of Rhododendrons, of which thirty were considered new; and no less a matter of surprise that when Mr. Booth, shortly after, visited the adjacent mountains of Bootan, he should have added, as detailed by Mr. Nuttall in the journal above quoted, sixteen to the number of novelties. We have reason to believe that if the lofty mountains of the Malayan Archipelago were as well explored, an equally extensive harvest would be reaped. The present is among the number of those discovered by Mr. Booth, of which seeds were received by Mr. Nuttall, at Nutgrove, Rainhill, where flowers were produced, as well as at the Royal Gardens (on a plant presented by Mr. Nuttall), in May of the present year, 1857. Mr. Nuttall, from specimens without flower, in his description, *l.c.*, judged that the species was very nearly allied to his *Rhod. Jenkinsii*; itself too near, if really distinct from, *R. Maddeni* (see our Tab. 4805): yet the habit is distinct, the corollas in our present plant are much shorter, the bracts more persistent, and there is a great disposition, at least in our specimen, to send out from the corymbs of flowers new

shoots, with scaly or stipulated branches, in a somewhat whorled manner, which however detract from the beauty and compactness of the heads of flowers.

Descr. Our plant forms a *shrub* about three feet high, with rather patent, stout, terete *branches*, the young ones scaly. *Leaves* three to five inches long, firm, rigid, coriaceous, ovate, oblong or somewhat elliptical, dark glossy green, penninerved, obtuse at the base, very acute at the point, glaucous beneath in the young leaves, ferruginous in the older ones, with innumerable, orbicular, peltate *scales*: a few of these scales are found on the veins above. *Petiole* from half to three-quarters of an inch long, very stout, brownish-green. *Corymb* of from four to five flowers; *bracteal scales* large, ovate, concave, membranaceous, deciduous. *Peduncles* short, scaly. *Calyx* very scaly, short, five-lobed; *lobes* rounded, equal or nearly so. *Corolla* about three inches long, and as much broad at the limb, pure white, slightly tinged with yellow-green, tubuloso-campanulate, somewhat ringent, deeply five-lobed, the two lower segments more deeply cleft; the *lobes* large, spreading, a little waved, and acute. *Stamens* shorter than the corolla, eighteen to twenty; *filaments* quite glabrous. *Anthers* purple-brown, oblong. *Ovary* on a fleshy *disc* or *ring*, ovate, very scaly (as is the long *style*), ten or more celled. *Stigma* broad peltate, two-lobed.

Fig. 1. Portion of the under side of a leaf, with its scales. 2. Stamen. 3. Calyx and pistil. 4. Transverse section of ovary:—*magnified*.



3.

W.Fitch del et lith.

Vincent Brooks Imp

Tab. 5003.

DENDROBIUM NOBILE; var. *pallidiflorum*.

Noble-flowered Dendrobium; pale-flowered var.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char.. (*Vide supra*, Tab. 4755.)

Dendrobium *nobile*: caulibus teretibus pendulis, foliis oblongis oblique emarginatis obtusis, floribus geminatis, sepalis ovalibus, petalis conformibus majoribus, labello subrotundo cucullato cordato.

Dendrobium nobile. *Lindl. Gen. et Sp. Orchid. p.* 80, *et in Sert. Orchid. t.* 3.

Var. *pallidiflorum*; pedunculis unifloris, petalis angustioribus, labello unicolore. (Tab. Nostr. 5003.)

Drawn from a plant sent by Mr. Parker, from his Nursery, Hornsey. Dr. Lindley, who has received the same plant from Mr. Van Houtte, is at present disposed to consider it a pale-coloured variety of *Dendrobium nobile*, of which the type is given in the splendid figure above quoted, 'Sertum Orchidaceum,' and shows it worthy to bear such a name. Our variety differs from it chiefly in the single-flowered peduncles, in the smaller size of the blossoms, in the narrower petals, in the absence of the bright roseate tinge, and that of the deep blood-coloured large spot which should occupy the tube of the labellum. This plant has also much resemblance to *D. crepidatum*, Lindl. (Bot. Mag. t. 4993). *D. nobile* is a native of China, and was introduced to our garden by the late Mr. Reeves. Its flowering season is May. The perfect state of this plant Dr. Lindley considers to be the handsomest of all *Dendrobia*. "The flowers are unrivalled for delicacy of texture and gracefulness of form: at first nodding, as if their slender stalks were unable to sustain their weight; and then, as they disentangle their ample folds, assuming a horizontal position, with the rich trumpet-shaped lip forming an apparently solid centre, they seem purposely to raise themselves

to the distinct view of the beholder." Little of this beauty, it must be acknowledged, is visible in our present variety.

Descr. *Stems* clustered, inclined, a span to a foot and more long, terete or subcompressed, jointed, furrowed, the younger ones chiefly, leafy at the top. *Leaves* distichous, few, narrow-oblong, coriaceous, obtuse, and obliquely emarginate at the point; their *sheaths* thin, transparent, clothing the articulations. *Peduncles* spreading, short, single-flowered in our variety. *Flowers* nodding in bud, two to three inches in diameter when fully expanded, white, tipped with rose-colour. *Sepals* oblong, spreading. *Petals* broader, nearly ovate. *Lip* downy, rather long, broadly obovate, obscurely three-lobed, the sides at the base rolled in, streaked with purple, the middle lip large, broad, obovate, pale sulphur-yellow, quite wanting the dark blood-red spot within the tube, so conspicuous in Dr. Lindley's plant. *Column* and *anther* as in the genus.

Fig. 1. Labellum. 2. Column and stamen. 3. Pollen-masses:—*magnified*.

Vincent Brooks Imp

Tab. 5004.

VIOLA pedunculata.

Long-stalked Golden Violet.

Nat. Ord. Violarieæ.—Pentandria Monogynia.

Gen. Char. Calycis sepala inæqualia, omnia plus minus deorsum in appendices auriculæformes (e dilatationibus nervorum prodeuntes) producta, post anthesin erecta. *Petala* inæqualia, æstivatione convolutiva, ungue trinervi; inferius deorsum in calcar cavum plus minus productum. *Stamina* approximata aut coaretata (nec coalita) ad apicem dentium tori pentagoni 5-dentati inserta. *Filamenta* basi dilatata, oblonga vel triangularia, antheras demissius gerentia; lobi antherarum basi divergentes; *stamina* 2 anteriora dorso appendices varias nectariferas in calcar intrantes gerentia. *Ovarium* nunc superum, nunc basi toro concavo cinctum et ideo semi-inferum. *Valvulæ capsulæ* elasticæ post maturationem contractæ semina ejicientes; *semina* horizontalia, manifeste caruncula ta, plus minus ovoidea et nitida. *Embryo* oblongus; *radicula* teretiuscula; *cotyledones* sæpius oblongo-orbiculatæ, planiusculæ, radicula vix longiores.—Herbæ *plerumque perennes, rarissime annuæ, nunc caule brevissimo vel subterraneo, unde* acaules *dictæ, nunc caulescentes vel* suffrutices *parvi;* folia *alterna, marcescentia;* pedunculi *solitarii, axillares, uniflori, 2-bracteolati, non articulati, apice reflexi;* flores *cernui;* folia *seminalia oblonga ovatave, petiolata; primordialia opposita, sed raro coætanea. DC.*

Viola (§ Chamæmelanium) *pedunculata;* glabriuscula elongata ramosa, foliis rhombeo-cordatis obtusis grosse crenato-serratis reticulatis basi in petiolum longum decurrentibus, stipulis longis lineari-oblongisve basi pinnatifido-laciniatis, pedunculis longissimis longe supra medium bibracteatis, stigmate emarginato, calcare brevissimo submullo, petalis late obovato-rotundatis superioribus sublonge unguiculatis lateralibus basi barbatis.

Viola pedunculata. *Torrey and Gray, Fl. of N. America, v.* 1. *p.* 141.

The handsomest we know of the genus, albeit lacking the fragrance of the great favourite, the *Sweet Violet* of Europe. It was one of the many discoveries of Douglas in California, during the last of his journeys, and but a little before the accident which caused his death in the Sandwich Islands. It has been since found by Mr. William Lobb. Beautifully dried specimens were sent home by him, and plants were reared from seed by Messrs. Veitch and Son, Exeter and Chelsea Nurseries, the exhibition of which at the Horticultural Society naturally attracted much atten-

tion. It seems well suited to cultivation in a cool frame. It flowers copiously in May. Mr. Nuttall detected it as far south as Monterey.

Descr. *Roots* perennial, but long, slender, straggling. *Stems* more or less compact, four to eight or ten inches long, dichotomously branched, angular, herbaceous, nearly glabrous, as is the whole plant. *Leaves* two to three inches long, submembranaceous, broad, cordately rhomboid, full green, obtuse, reticulately veined, coarsely crenato-serrate, decurrent from the sinus upon the long slender *petiole*, three to four inches long. *Stipules* oblong or linear-oblong, moderately large, pinnatifid at the base. *Peduncles* solitary, axillary, twice as long as the leaves, angular, with a pair of subulate *stipules* situated much above the middle, which are opposite or alternate. *Flowers* of a rich golden yellow; three lower *petals* streaked with deep blood-colour at the base; two upper ones each with a very large blotch at the back, of the same colour. *Calyx* as in the genus. *Lateral petals* with a tuft of hairs at the base of the lamina: two upper ones with long *claws*. *Spur* nearly obsolete. *Stamens:* two inferior *anthers* with a crest or thick wing at the back. *Ovary* oblongo-ovate. *Style* club-shaped. Capitate *stigma* with a longitudinal cleft, and a small spur at the base of the cleft; a circle of hairs half surrounds the *stigma*.

Fig. 1. Lateral petal. 2. Inferior petal (nectary, *L.*). 3. Stamen and pistil. 4. One of the inferior anthers. 5. Pistil:—*magnified.*

1.
2.

Tab. 5005.

AZALEA occidentalis.

Californian Azalea.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4726.)

Azalea *occidentalis;* corymbis magis minusve foliosis, ramulis junioribus pubescentibus, foliis oblongis obovato-oblongisve pilosulis præcipue ad costam marginemque, lobis calycinis parvis oblongis hursutis ciliatisve, corollæ tubo glanduloso-pubescente limbi lobos æquante, staminibus styloque longe exsertis.

Azalea occidentalis. *Torrey et Gray, MSS. ined.*

Azalea calendulacea. *Hook. et Arn. Bot. of Beech. Voy. p.* 361.

Our drawing was made from a beautiful specimen sent by the Messrs. Veitch (Exeter and Chelsea Nurseries), which was raised from seeds sent direct from California by Wm. Lobb. Specimens from Captain Beechey's Voyage in H.M. Surveying-ship 'Sulphur' were there noticed by us, though doubtfully (in the 'Botany' of that voyage), as the *Azalea calendulacea* of Eastern America; and that is perhaps its nearest affinity, and we think very close affinity. We possess specimens also from Douglas and Hartweg (n. 1827), all gathered in California, and from the North Umqua by Mr. Burke within the Oregon territory. I am favoured by Messrs. Torrey and Gray with specimens gathered by Dr. J. M. Bigelow, during "Lieutenant A. W. Whipple's Exploration* for a railway route from the Mississippi River to the Pacific Ocean near the 35th parallel of latitude, during 1853–4," to which these able botanists have given the name, which we here adopt, of *Azalea occidentalis*. I had considered it, when I had only access to dried specimens, as probably not different from *A. calendulacea;* and now that I have seen the living plant, I am not prepared to say that it is a distinct species. The leaves are the same, and the form and structure, etc., of the flowers are the same, but the colour of the corolla is different:

* We are informed by our friend Dr. Engelmann, that the Botany of this Survey, which will include our plant, is printed, and will soon be published.

September 1st, 1857.

"in *A. calendulacea* the corollas are yellow or orange, turning to flame-colour," in *A. occidentalis* they are white, streaked with red on the tube and outer tips of segments, and have the upper lobe of the limb of the corolla within, yellow on the disc. Indeed the definitions of *A. viscosa*, *nudiflora*, and *calendulacea* of Eastern America, seem to me by no means satisfactory: few of the characters laid down are permanent, and the difficulty of giving faithful characters is increased by numerous varieties and hybrids that are studied in our gardens. The present is the only *Azalea* of North America found to the west of the Rocky Mountains.

Fig. 1. Calyx and pistil. 2. Stamen:—*magnified*.



Vincent Brooks Imp.

Tab. 5006.

AGAVE densiflora.

Close-flowered Agave.

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra, sub* Tab. 4934.)

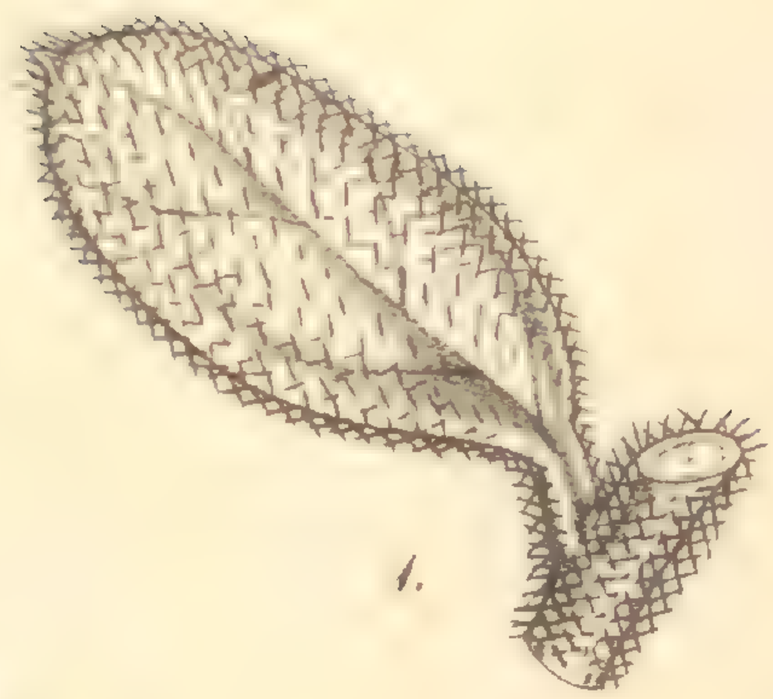
Agave *densiflora*; acaulis, foliis subtripedalibus obovato-lanceolatis crassis rigidis atro-virentibus inæqualiter breviter spinoso-dentatis apice tenuiter acuminatis spinescentibus dentibus remotiusculis simplicibus supra planis vel apicem versus concavis, dorso convexo, scapo folia longe superantibus 5–6-pedali fere ad basin squamis seu bracteis longis subulatis erectiusculis vel appressis, spica elongata fusiformi, floribus sessilibus numerosissimis ad basin bracteatis, bractea elongato-subulata, perianthio flavo-viridi hypocrateriformi tubo subcylindraceo limbi laciniis linearibus reflexis apice sphacelatis, filamentis fusiformibus styloque perianthio plus quam duplo longioribus.

The Succulent-house of the Royal Gardens of Kew contains two fine plants of an unnamed *Agave* which are supposed to have been imported from Mexico, and which, during the present year, have (both) produced their fine flowering scapes. One of these is here figured upon a very reduced scale; but I regret to say that, with all the advantages of flower and fruit before me, I am unable to refer it to any described species. Kunth, the most recent author on the genus, describes thirty-eight species, included under three primary groups; 1. *Scape paniculato-ramose*; 2. *Scape simple, flowers spiked and sessile* (to which our plant belongs); 3. *Species mihi haud classificandæ*. With none of the species there described will our plant accord. I have no alternative then, but, as with the allied *Agave* (that is, belonging to the same section) figured at our Tab. 4934, to describe it as new.

Descr. *Stem* none. *Leaves*, external ones horizontally spreading, the rest gradually more erect, and the central ones quite so, lanceolate, dilated at the base, finely pungently and spinulosely acuminated at the apex, four to five inches broad, convex on the under side, nearly plain or canaliculate above, or concave below

the extremity, the *substance* thick, firm, coriaceous, of a full dark green *colour* (not at all glaucescent), the margin spinoso-dentate, *spines* erecto-patent, short, with a broad base, suddenly acuminate, scarcely a line long, hard, horny, almost black. *Scape*, including the spike, nearly six feet long, more than an inch thick, arising from among the inferior leaves, or terminal, bearing two or three small narrow leaves at the base; these leaves suddenly pass into long (three to four inches), subulate, membranaceous *bracts*, at first green, then pale brown, numerous, more or less erect, or spreading, or even deflexed. *Spike* gradually elongating as the flowers advance, at length a foot and more long in the state of the densely compacted innumerable *flower-buds*, cylindrical, acuminate, pale green. The *flowers* expand from below upwards, and soon the spike takes a broad fusiform shape, below narrow, and brownish with the withered reflected flowers, then a broad band of yellowish flowers past perfection, but not withered: these are succeeded by the rich purple of the stamens and pistils of the recently opened blossoms, and the apex is formed by the unexpanded buds. *Flowers* often only staminiferous, all densely crowded, sessile, each pair subtended by a subulate *bractea*. *Perianth* yellow-green, hypocrateriform; segments of the limb patenti-reflexed, sphacelate at the point. *Filaments* more than twice as long as the perianth, tapering at each end, hence fusiform, purple. *Anthers* long-linear, versatile, dark purple, yellow when burst, from the copious pollen. *Ovary* elliptical, somewhat angled, three-celled; seeds many, in two rows in each cell. *Style* shorter than the stamen, stout filiform. *Stigma* obtuse, a little dilated.

Flowering plant, *greatly reduced*. Fig. 1. Apex of a leaf, *nat. size*. 2. Pair of flowers and bract. 3. Ovary. 4. Transverse section of ditto:—*magnified*.





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W. Fitch del et lith.

Vincent Brooks Imp.

Tab. 5007.

GREVILLEA alpestris.

Mountain Grevillea.

Nat. Ord. Proteaceæ.—Tetrandia Monogynia.

Gen. Char. Perianthium irregulare; foliolis laciniisve secundis; apicibus cavis, staminiferis. *Antheræ* immersæ. *Glandula* hypogyna unica, dimidiata. *Ovarium* dispermum. *Stigma* obliquum, depressum (raro subverticale, conicum). *Folliculus* unilocularis, dispermus, loculo centrali. *Semina* marginata, vel apice brevissime alata.—Frutices, *rarius* arbores, *pilis dum adsint medio affixis!* Folia *alterna, indivisa vel pinnatifida.* Spicæ *nunc elongatæ, racemosæ, nunc abbreviatæ corymbosæ vel fasciculiformes, involucro nullo, pedicellis geminatis, raro pluribus, paribus fasciculisve unibracteatis.* Perianthia *sæpissime rubicunda, nunc flava, in quibusdam oblique inserta.* Folliculi *vel coriacei ovati, stylo toto coronati, seminibus ovalibus, angustissime marginatis et apice brevissime alatis: vel lignei, suborbiculares, pseudo-bivalves, basi modo styli mucronati, seminibus undique alatis. Br.*

Grevillea *alpestris;* foliis semipollicaribus ovalibus oblongis linearibusve muticis margine recurvis vel revolutis supra convexis eveniis puberulis punctato-scabriusculis subtus ramulisque villoso-tomentosis, racemis terminalibus fasciculiformibus recurvis paucifloris ferrugineo-tomentosis, calyce pistillum semipollicem subæquante, limbo obtusissimo, ovario sessili albido-villoso, stylo dense rufo-hirsuto, stigmate subrotundo-planiusculo. *Meisn.*

Grevillea alpestris. *Meisn. in Hook. Journ. Bot.* 1852, *p.* 187, *et Linnæa*, 183. *p.* 354, *et in De Cand. Prodr. v.* 14. *p.* 361.

Grevillea Dallachiana. *F. Muell. First. Gen. Rep. Melb. Gard. p.* 47.

Grevillea alpina, *β. Lindl. in Mitchell Exp. (fide Meisn.)*

Sent to us from the greenhouse of the nursery of Messrs. Rollison, in May, 1857. It is a native of South Australia, in mountainous districts. Meisner gives as stations, Australia Felix, Mount William, *Mitchell;* Grampians, Disappointment, Dandinong, Loddem and Buffalo Range, Broken, Goulbourne and Orans River, *Ferd. Mueller;* and Dr. Mueller, in his valuable MS. now before us, adds many other localities, and has supplied us with numerous specimens. It forms a shrub in its native country many feet high, but bears copious flowers with us, on plants of a small size; these flowers are of a brick- rather than

bright-red, merging into yellow in the upper half. In Australia it flowers throughout the whole year.

Descr. Old *branches* ashy-brown and glabrous, younger ones pubescent. *Leaves* copious, patent, often reflexed, scattered, four to six lines long, three lines broad, generally elliptical, but more or less approaching to ovate, sometimes narrow oblong, recurved at the margin, pubescent on both sides, dark green above, pale beneath. *Heads* or *corymbs* of *flowers* umbellate. *Pedicels* short, thick, downy. *Perianth* scarcely an inch long, including the curvature, downy, or even subhispid, brick-red, gradually passing into yellow in the upper half; the *tube* is inflated below; the *lobes* are unequal. *Anthers* sessile, lodged in the cavity of the lobes. *Ovary* and *style* densely clothed with erect hairs, as is the *gland* at the base. *Stigma* very large, orbicular, peltate, umbilicate in the centre, lateral. *Follicle*, according to Dr. Mueller, "ellipsoid, downy or villose, six to eight lines long, beaked with the persistent style. *Seeds* narrow, ellipsoid, smooth, three to four lines long, one broad, blackish-brown, void of gloss, convex on the back, channelled by the inflexed margins on the opposite side." Slight varieties are mentioned both by Drs. Meisner and Mueller, and the latter notices its affinity with the well-known *Grevillea canescens*, Br.

Fig. 1. Leaf. 2. Flower. 3. Pistil:—*magnified.*

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Tab. 5008.

RHODODENDRON Windsorii.

Mr. Windsor's Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Windsorii;* arboreum, foliis coriaceis oblongo- seu obovato-lanceolatis acutis in petiolum attenuatis glabris subtus argenteis demum rufescentibus, capitulis multifloris, bracteis sericeis, calycis lobis elongatis lanceolatis attenuatis extus hirsutis, corollæ roseo-puniceæ lobis emarginatis, staminibus 10, capsulis cylindraceo-oblongis glabris 10-locularibus, seminibus lanceolatis subulatis. *Nutt.*

Rhododendron Windsorii. *Nutt. in Hook. Kew Garden Misc. v. 5. p.* 357.

β, *leucanthum;* foliis elliptico-lanceolatis opacis, floribus albis. *Nutt.*

This is another of the many Rhododendron discoveries made by Mr. Booth, in the mountains of Bootan, growing at an elevation of 7–9000 feet above the sea, on the ridges and slopes of Roophrya, in exposed and arid situations, amongst Pines, species of *Cupressus*, etc.; and from seeds transmitted to Mr. Nuttall, plants were raised which flowered at Nutgrove, Rainhill, in June 1857. The variety, which Mr. Nuttall thinks may prove to be a distinct species, is readily distinguished by its more lanceolate leaves, of an opaque, dull green above, but like the ordinary state of the plant beneath, passing from a silvery-white, at length to pale brown: the flowers are constantly white. This, as far as we know, has not yet blossomed in England. Both the states Mr. Nuttall finds hardy in Lancashire, having stood out all the last winter, even small seedlings.

Descr. A small *tree*, with coriaceous *leaves*, which are obovato-lanceolate and acute, four to five inches long, an inch to an inch and a half broad, strongly reticulated and pinnately nerved, shining, white and silvery beneath, at length pale brown. *Heads* many-flowered, crowded, the *bracts* dilated and silky; lobes of the *corolla* all emarginate, the *colour* a deep crimson-scarlet, rather deeper-coloured than in *R. arboreum*, to which this species is nearly allied. It is still more allied to *R. roseum* of the gardens,

but is different in the foliage and in the colour of the flowers. The *calyx* has five, elongated, tapering *lobes*. Stamens ten. *Capsules* at length glabrous, oblique at the base, ten-celled.

Fig. 1. Calyx and pistil. 2. Stamen. 3. Capsule (*nat. size*). 4. Transverse section of an ovary :—*magnified*.



A. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 5009.

UROSKINNERA SPECTABILIS.

Showy Uroskinnera.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. Uroskinnera, *Lindl.*—*Æstivatio* imbricato-bilabiata. *Calyx* cyathiformis, 4-dentatus. *Corolla* et *stamina* Pentstemonis. *Stylus* planus, *stigmate* furcato. *Capsula* calyce arctissime vestita, loculicido-dehiscens. *Semina* scrobiculata, membrana cincta.—Herba, *facie* Gesneræ; floribus *spicatis*, *violaceis*. *Lindl.*

Uroskinnera *spectabilis*.

Uroskinnera spectabilis. *Lindl. in Garden. Chron. for Jan.* 1857, *p.* 36, *b.*

This remarkable plant, constituting a new genus, was introduced to our gardens by the Horticultural Society; and I cannot do better than copy Dr. Lindley's excellent description and remarks above referred to.

"For this beautiful plant our gardens are indebted to G. U. Skinner, Esq., the most generous of merchants, the most eager of collectors, to whom or to whose assistance the botany of Western Mexico and Guatemala owes more than to all the travellers who have visited those regions. Nothing more worthy of his name could well be found, for the plant is very rare, very showy, and now secured to our gardens; we therefore trust that verbal pedants will not quarrel with the manner we have contrived to escape from the difficulty of there being already a *Skinneria* in the botanical field, but agree with us that Uro Skinner may be fairly blended into a name which shall unmistakably record the labours of one who ought never to be confounded with any other Skinner whatever."

Descr. "It forms a soft, stout, erect, herbaceous *plant*, looking like some *Gesnera*, and grey with close hairs. In drying it becomes a very dark brown. The *leaves* are oblong, toothed, stalked, from two to four inches long. The *flowers* appear in sessile, terminal, very close *spikes*, about three inches long, and

are each subtended by a filiform hairy *bract*. The *calyx* is small, cup-shaped, hairy, four-toothed, and fits close to the base of the tube of the *corolla*, which is pale violet, smooth, an inch and a half in length, funnel-shaped, with a nearly equally blunted and five-lobed, two-lipped *limb*, downy on the upper side. The *stamens* are those of *Pentstemon*, the sterile one being linear-spathulate, coarsely downy, and rather shorter than the shortest fertile ones. The *fruit* is an ovate *capsule*, naked at the point, but otherwise tightly invested with the coarse hairy calyx and its four filiform lobes; the dehiscence is through the back of the carpels. On a central, eventually loose, spongy *placenta* are closely packed, numerous, scrobiculate, small, oval, plano-convex *seeds*, edged with a narrow membrane, with a straight *embryo*, lying in the midst of *albumen*, and a well-defined, oval *chalaza* near the upper end." *Lindl.*

It is a stove plant, and flowered with us in July.

Fig. 1. Corolla laid open. 2. Calyx and pistil. 3. Immature capsule:—*magnified.*



W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 5010.

EPIGYNIUM acuminatum, *Klotzsch.*

Acuminate-leaved Epigynium.

Nat. Ord. Vaccinieæ.—Decandria Monogynia.

Gen. Char. Epigynium, *Klotzsch.*—*Calycis tubus* hemisphæricus, lævis, limbo libero 5-partito. *Corolla* ovata campanulata v. urceolata. *Stamina* 10, distincta; *antheræ* muticæ v. aristatæ, in tubulos 2 discretos productæ, antice ad apicem foraminibus ovalibus dehiscentes. *Ovarium* 5-loculare, multiovulatum, disco 5-gibbo limboque calycis coronatum. *Bacca* pulposa, subgloboso-ovata.—Frutices Indiæ Orientalis, *ramosi, terrestres vel epiphytici;* foliis *persistentibus;* floribus *axillaribus terminalibusve, racemosis v. fasciculatis, rarius corymbosis. Klotzsch in Linnæa, v.* 24. *p.* 49.

Epigynium *acuminatum;* foliis alternis petiolatis lanceolatis acuminatis remote serratis, floribus rameis corymbosis, pedicellis clavatis elongatis corollisque ampullaceis puberulis, antheris muticis.

Epigynium acuminatum. *Klotzsch, in Linnæa, v.* 24, *p.* 51.

Agapetes acuminata. *Don, Gen. Syst. Gard. v.* 3. *p.* 862. *Dunal in DC. Prodr. v.* 7. *p.* 554.

Thibaudia acuminata. *Wall. Cat.* 6297.

One of the many beautiful *Vaccinieæ* which abound in the subtropical and temperate regions of the humid Indian mountains, but of which very few have hitherto been introduced into European gardens. The present species was first detected by Wallich's collectors in the mountains near Silhet (Khasia), and has been gathered there abundantly by Griffith and Drs. Hooker and Thomson, at elevations of 3–4000 feet, generally growing epiphytically upon trees. Mr. Griffith has also gathered it in the province of Moalmaque, and it is probably a common plant in those regions. The specimens figured are from our friend Mr. Nuttall, who introduced it through his collector Mr. Booth, from the Bhotan hills. It is a very handsome plant, and some of our dried specimens have leaves a span and a half long. The peduncle of the corymb varies extremely in length; but the flowers and foliage are very constant to their characters.

Descr. A small *shrub*, two to four feet high, sparingly irregu-

larly branched, the *branches* rough, leafy chiefly towards the apices, warted. *Leaves* alternate, with little or no tendency to verticillation, on short stout *petioles*, four inches to a span and a half long, lanceolate, acuminate, remotely bluntly toothed, very coriaceous, persistent, deep-green, opaque above, paler and often lurid purple beneath: upper surface sometimes mottled with purple; *costa* stout, lateral nerves remote; *petiole* with two opposite mamilliform *glands* towards the base of the lamina. *Flowers* abundantly produced, in drooping *corymbs*, from the stem below the leaves. *Common peduncle* variable in length, of a quarter of an inch to one inch long. *Pedicels* one inch long, narrow-clavate, bright coral-red, as are the calyces and flowers, and all these parts are covered with very short hairs. *Calyx-tube* hemispherical, with a five-toothed *limb*. *Corolla* almost globose, with five obscure angles and as many recurved short segments. *Epigynous disc* entire. *Stamens* with rather broad *filaments* which are shorter than the anthers; *anthers* without aristæ, and with short tubular apices.

Fig. 1. Flower with its thickened peduncle. 2. Calyx and pistil. 3. Stamen: —*magnified*.



W. Etch del. et lith.

Vincent Brooks Imp.

Tab. 5011.

DENDROBIUM CREPIDATUM; var. *labello glabro.*

Slippered Dendrobium; glabrous-lipped var.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4755.)

Dendrobium *crepidatum;* caulibus elongatis erectis teretibus striatis, foliis oblongis acutis subcoriaceis, floribus geminis, sepalis oblongis obtusis, petalis orbiculari-oblongis, labello cordiformi rotundato integro subsinuato obtuso retusove lateribus erectis intus pubescente venoso basi utrinque plicato, cornu brevi obtuso.

Dendrobium crepidatum. *Lindl. in Paxt. Fl. Garden, v.* 1; *Gleanings, n.* 99, *f.* 95 *(woodcut of flower only).*

β. labello planiusculo glabro. (Tab. Nostr. 5009.)

From the collection of the Royal Gardens, having been derived from Assam. It was supposed to be a new species of *Dendrobium*, but a careful comparison with the true plant, *D. crepidatum*, shows, that though the flowers are very delicate and prettily coloured, the plant cannot be considered other than as a variety of that species, with a glabrous labellum, and with the involuted sides near the base (as seen in our Tab. 4993) spread out, so as to give a different form to the labellum. We need only refer to the description at the Tab. just quoted, for more particulars of this species.

Fig. 1. Column and lip. 2. Pollen-masses, *magnified.*

October 1st, 1857.

W. Fitch del. et lith

Vincent Brooks Imp.

Tab 5012.

AGAPETES BUXIFOLIA, *Nutt.*

Box-leaved Agapetes.

Nat. Ord. Vacciniaceæ.—Decandria Monogynia.

Gen. Char. Calyx campanulatus, limbo 5-fido, laciniis acutis. *Corolla* tubulosa, incurva v. recta. *Stamina* 10; filamentis incurvis; antheris in tubulos 2 elongatos connatos apice antice dehiscentes productis. *Stigma* depressum, 5-lobum. *Bacca* carnosa, 5-locularis, polysperma.—Frutices *Indici;* foliis *alternis, coriaceis, sempervirentibus;* floribus *solitariis racemosisve. Klotzsch in Linnæa, v.* 24. *p.* 39 *(paucis verbis mutatis).*

Agapetes *buxifolia;* ramulis calyce pedicellisque pilosis, foliis (pollicaribus) breve petiolatis obovato-cuneatis acutiusculis subserratis glaberrimis, floribus axillaribus solitariis binisve, pedicellis folio brevioribus, corollæ tubo strictiusculo coccineo folio æquilongo ter longiore quam lato, lobis patentibus ovato-lanceolatis, antheris rugulosis basi apiculatis apice in tubulos loculis 4-plo longiores connatos productis.

Agapetes buxifolia. *Nutt. MSS.*

This very beautiful plant was imported by our friend Mr. Nuttall, from the Duphla hills on the eastern frontier of Bhotan, bordering on Assam, where it was detected by Mr. Booth, growing epiphytically upon trees, at an elevation of 2–3000 feet. It forms a small bush with a large, tuberous, root-like stem, which, as in many of its Indian congeners, adheres closely by numerous fibrous rootlets to the mossy trunks of trees in damp forests. Mr. Nuttall further states that it grew with him grafted by approach to a species of *Epigynium* (*E. leucobotrys*, Nutt.).

Descr. An evergreen leafy *bush*, four to five feet high, with spreading, virgate *branches. Branches* pilose. *Leaves* rather crowded and spreading, about an inch long, coriaceous, bright green above, paler below, shortly petioled, obovate-cuneate towards the base, subacute, obscurely serrate beyond the middle. *Flowers* solitary or two together, axillary, on slender pilose pedicels about half as long as the leaves. *Calyx* obconico-campanulate, green, terete, pilose, with five short, green, triangular-ovate

teeth, very many times shorter than the corolla. *Corolla* tubular, cylindric, about an inch long, glabrous, bright red, its five segments spreading, ovate-lanceolate, acuminate. *Stamens* ten; filaments with broad arcuate bases and slender tips. *Anthers* linear, crenulate, produced into a pair of connate very slender tubes, which reach a little beyond the mouth of the corolla. *Epigynous disc* annular, entire. *Style* straight, erect, gradually dilated at the truncate obscurely five-lobed apex.

Fig. 1. Calyx and pistil. 2, 3. Back and front view of stamens:—*magnified.*

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Tab. 5013.

MEYENIA erecta.

Upright Meyenia.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* parvus, quinquelobus, bracteolis duabus magnis inclusis. *Corolla* infundibuliformis, fauce sensim ampliata, *tubo* brevissimo intus annulo piloso clauso, *limbo* æquali. *Stamina* 4, didynama; *antheræ* apice barbatæ, biloculares, superiorum loculis inæqualibus, altero magis supero divergente latere tomentoso, inferiorum parallelis subæqualibus, basi muticis. *Stigma* membranaceo-dilatatum, bilabiatum, labiis bilobis. *Capsula* e basi tumidula conico-attenuata, ad basin bilocularis, tetrasperma, dissepimento persistente, valvis adnato, ad axin lignoso, dissolubili. *Semina* (immatura) *strophiolo* cupuliformi solubili spongioso suffulta.—Plantæ Indicæ *vel* Africæ *occidentalis tropicæ*. Caulis *scandens vel erectus*. Folia *opposita, integerrima*. Flores *axillares, pedunculati*. *Nees.*

Meyenia *erecta;* glabra, ramis erecto-patentibus, foliis petiolatis ovatis acuminatis integris vel sinuato-dentatis, calyce brevissimo sub-12-fido, corollæ tubo bracteis oblongo-lanceolatis quadruplo longiore.

Meyenia erecta. *Benth. in Niger Flora, p.* 476.

A really lovely stove plant, of a genus of which only one species has been hitherto known (*Meyenia Hawteyneana*, Nees, Maund's 'Botanist,' t. 188)—and that an Indian climber, while ours is a western tropical African nearly erect shrub, discovered at Cape Coast Castle by Dr. J. R. T. Vogel, the first of that name whose life has been sacrificed to scientific researches in the interior of Africa. Plants were forwarded to us by Messrs. Rollison, of Tooting; the seeds had been sent from the African coast, and germinated in the stove in the early part of 1856. The species is hardly so strict in habit as to merit the specific name of *erecta*. It is a graceful, lax-growing shrub, bearing extremely beautiful flowers during the early summer months.

Descr. A *shrub* two to three or four feet high with us; six to eight feet in its native country, suberect: *branches* lax, erecto-patent, by no means scandent as in *M. Hawteyneana*. *Leaves* approximate, opposite, petiolate, ovate or subrhomboid, glabrous,

acuminate, entire, or more or less deeply sinuato-dentate, varying much in size, from half an inch to one and a half inch or two inches. *Peduncles* axillary, solitary, often opposite, single-flowered, much shorter than the flower. *Bracteas* two, opposite, small (as compared with those of *M. Hartleyneana*), oblong, acute, submembranaceous, pale green. *Calyx* quite concealed by the bracteas, cyathiform, white, cut into twelve or fourteen erect subulate *teeth*. *Corolla* with the *tube* elongated, slightly curved, infundibuliform, pale yellow; *limb* large, spreading, purple (*faux* deep yellow), of five, nearly equal, subrotundato-obcordate segments. *Stamens* four, didynamous, included. *Filaments* glanduloso-pilose in front. *Anthers* one-celled, the margin of the cell deeply fringed with subclavate hairs. *Ovary* globose, seated upon a large, thick, fleshy *receptacle*. *Style* as long as the tube of the corolla, slightly hairy above. *Stigma* of two very distinct lips: *superior lip* erect, the sides involute; *inferior lip* patent, obcordate, spreading, with a minute tooth on each side at the base. *Fruit* I have not seen.

Fig. 1. Calyx and pistil. 2. Ovary and receptacle. 3. Stamen:—*magnified*.



Tab. 5014.

PANDANUS Candelabrum.

Lustre Screw-Pine.

Nat. Ord. Pandaneæ.—Diœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4736.)

Pandanus *Candelabrum;* caule inferne radicibus aereis fulto superne ramoso, ramis apicibus erectis, foliis e basi amplexicauli lineari-subulatis carinatis margine serrato-spinosis glaucis, spadicibus masculis axillaribus solitariis subsessilibus, fructibus subgloboso-depressis, drupis 3(5)-locularibus. *Kth.*

Pandanus Candelabrum. *Beauv. Flor. d'Oware et de Benin, p.* 37. *t.* 21 *et* 22. *Kunth, Enum. Plant. v.* 3. *p.* 98.

We are indebted to our excellent correspondent, Hercules G. R. Robinson, Esq., Governor of the West Indian Island, St. Kitt's, for living plants of this rare and little-known species of Screw-Pine; which, being accompanied by fine specimens of the fruit, enable us to offer the annexed figure, which however can give no idea of the peculiar mode of growth of this remarkable plant. Some notion of it may however be formed from a fine specimen we have long observed with interest, firstly in Loddiges' celebrated collection at Hackney, and now at the Sydenham Palace. A very imperfect sketch of it is also given, on an extremely reduced scale, in the work above quoted of Palisot de Beauvois, tab. 21, fig. *a*. Notwithstanding we have received this plant direct from the West Indies, it is not there a native; and indeed of the thirty species of Screw-Pine characterized by Kunth in his 'Enumeratio Plantarum,' and the nine enumerated but not described by Freycinet, not one is a denizen of the New World: all are exclusively of the tropical regions of Asia and Africa, generally inhabiting the muddy banks of rivers near their embouchures. Among the beautiful series of drawings of scenery of Victoria River, made by Mr. Baines during the late Overland North Australian Expedition, which we have

lately had the pleasure of seeing, Pandani form a striking feature in the landscape.

Of the leaves of *Pandanus odoratissima*, growing in Mauritius and Bourbon, the bags in which sugar is exported are all made; and when they have served for that purpose they are sold to the London fishmongers, where they are familiar to every person who buys a piece of fish in the market, as the receptacle for carrying home the purchase for his dinner.

Pandanus Candelabrum, as far as we are aware, is exclusively a native of the West Coast of Africa, where it seems to abound; yet it has only been noticed scientifically by M. de Beauvois. In the 'Niger Flora,' it is merely observed that it is "common along the coast, where it was observed by Vogel, but no specimen was gathered." No doubt, in consequence of the great and long-continued intercourse between Western Africa and the West Indies, this plant (with many others) has been introduced into the New World, as many West Indian species are now commonly seen about Sierra Leone and other African towns.

Descr. Our description of a plant of whose habits we know so little must necessarily be imperfect. We have no record even of the height or bulk to which the *tree* (for such it is) attains in its native country. Loddiges' plant, in the Sydenham Palace, is about twenty-five feet high, speaking from recollection. Beauvois represents the stem as lofty, annulated with the scars of fallen leaves, throwing out from near the base, and also considerably above the base, at intervals, large stem-like roots, which spread, descend into the ground, and form so many props, and serve also as anchorage for the trees, where the rapid currents would otherwise annihilate them. Somewhat in the same way as stem-like roots are given out below, so the upper part bears stout branches, which diverge or are deflexed, their apices inclining upwards, and there crowned with a tuft of leaves beautifully spirally arranged in three ranks: these *leaves* are two to three feet (perhaps more) long, about two inches wide, linear-subulate in form, broad and sheathing at the base, costate, the margin beset with rather distant, red-brown, spinous teeth or serratures pointing upwards. We have seen neither male nor female *flowers*. The *former* are figured (but not fully described) as forming oblong, very dense thyrses, springing from the axils of the leaves, little being visible but the innumerable *stamens*, with their linear *anthers*. These flowers, says M. de Beauvois, yield a powerful and fragrant odour, "qui corrige celle des vapeurs infectes, répandue par le limon vaseux que les eaux laissent à découvert deux fois le jour, lorsqu'elles sont retirées." Female Flowers :— Our not perfectly mature fruit is solitary, arising from the axil of a leaf, terminating a stout, decurved *peduncle*, and it consists of a cluster of subcompressed, ovate, very hard and fibrous, an-

gular, drupaceous *nuts*, collected into a nearly globose but depressed *compound fruit*, somewhat of the structure of a pine-apple, or a bread-fruit. These nuts are imperfect, but they exhibit the traces of five (the number seems variable) elongated *cells;* each with one erect *ovule* or *seed*. These drupes, taken individually, are richly coloured; yellow below, dark green above, with a tinge of red where the free portion unites with that which is in contact with the adjacent drupes; the apex is crowned with four to six brown sessile *stigmas*. The fruit here figured is preserved in the Museum of the Royal Gardens of Kew.

The Plate represents a fruit-bearing specimen, *nat. size*. Fig. 1. Single drupe. 2. Vertical section. 3. Transverse section :—*also of the nat. size.*



W. Fitch, del et lith

Vincent Brooks, Imp.

Tab. 5015.

SABBATIA campestris.

Prairie Sabbatia.

Nat. Ord. Gentianeæ.—Pentandria Digynia.

Gen. Char. Calyx 5–6–7–12-partitus, vel rarissime 5-fidus, segmentis dorso exalatis. *Corolla* rotata, marcescens, limbo 5–12-partito. *Stamina* 5–12, corollæ fauci inserta. *Antheræ* erectæ, rimis dehiscentes, demum recurvæ. *Ovarium* valvulis parum introflexis sub-1-loculare, *ovulis* ad suturam insertis. *Stylus* distinctus, deciduus, bicruris, cruribus stigmatiferis demum spiraliter tortis. *Capsula* bivalvis, septicida, subunilocularis, placentis spongiosis. *Semina* funiculis distinctis destituta, varia.—Herbæ *biennes, graciles;* floribus *pedicellatis, sæpissime roseis, in America boreali temperata indigenæ. Griseb.*

Sabbatia *campestris;* caule tetragono dichotomo ramoso, ramulis unifloris, foliis ovatis inferioribus obtusis, calycis tubi suturis alatis, segmentis lanceolatis corollam æquantibus, corollæ 5-partitæ roseæ lobis obovatis obtusis.

Sabbatia campestris. *Nutt. Fl. Arkans. p.* 197. *Grisebach in De Cand. Prodr. v.* 9. *p.* 50. *Griseb. Gen. et Sp. Gent. p.* 123.

An annual, fragrant, and bitter plant, little known even in its native countries, Arkansas and the Red River (where it was first detected by the venerable Nuttall), New Orleans and Texas (where it was discovered by Mr. James Drummond). In those countries it inhabits the open prairies, spangling them with its star-shaped deep-lilac flowers with a yellow eye. Lindheimer also found it in Texas in 1843, and it is No. 120 of fasc. 1 of his 'Flora Texana.' We owe the introduction of this pretty annual to Mr. W. Thompson, of Ipswich, who imported the seed through a correspondent in Germany, in 1855. By some accident they were not sown till the spring of the present year, 1857, but they germinated with a little artificial heat. Planted out in the early summer they produced their copious and ornamental flowers. The segments of the corolla Mr. Thompson observes to be variable, more or less pointed. The specimen here figured tallies well with our native specimens.

November 1st, 1857.

Desch. Annual. *Root* of a few wiry, branching *fibres*. *Stem* 4–5 inches to a foot high, dichotomously branched above in a lax but paniculated manner, each branchlet terminated by a solitary flower: in the axil of the uppermost fork is often a solitary pedunculated flower: *stem* and *branches* terete, but having four slightly winged angles, glabrous, as is every part of the plant. *Leaves* rarely exceeding three-quarters of an inch in length, opposite, ovate, sessile or even subconnate, entire, three- to five-nerved. *Calyx* with the *tube* clavate (in fruit turbinate), with five longitudinal wings: *limb* of five, subulate, spreading, almost leafy segments. *Corolla* large, handsome, between rotate and infundibuliform: *tube* short, subinflated; *limb* of five broadly obovate, spreading segments, of a deep lilac colour; the *faux* yellow. *Stamens* five; *filaments* inserted at the faux. *Anther* linear. *Ovary* oval. *Style* shorter than the ovary, forked above. *Stigmas* long, spirally twisted, above clothed with glandular hairs.

Fig. 1. Corolla, stamens, and pistil. 2. Single stamen. 3. Transverse section of immature fruit, showing the placentæ and seeds:—*magnified*.

1.

2.

W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 5016.

DILLENIA speciosa.

Showy Dillenia.

Nat. Ord. Dilleniaceæ.—Polyandria Polygynia.

Gen. Char. Calyx pentaphyllus, foliolis subrotundis persistentibus fructifer auctus. *Corollæ petala* 5, hypogyna, persistentia. *Stamina* indefinita, hypogyna, multiseriata, æquilonga, *antheris* bilocularibus, elongato-linearibus, adnatis, juxta longitudinem dehiscentibus. *Ovaria* 10–20, unilocularia, axi coalita, *ovulis* ad suturam ventralem biseriatis. *Styli* radiato-divergentes, intus juxta totam longitudinem stigmatosi. *Bacca* plurilocularis, stylis radiantibus coronata, polysperma. *Semina* arillo pulposo induta.—Arbores *Asiæ tropicæ, excelsæ;* foliis *alternis, petiolatis, ovalibus v. oblongis, penninerviis, argute dentatis;* petiolis *basi dilatata semiamplexicaulibus;* stipulis *nullis;* pedunculis *e gemma squamosa erumpentibus, solitariis, uni-multifloris;* floribus *flavis v. albis;* fructu *eduli, acidulo. Endl.*

Dillenia* *speciosa;* foliis petiolatis oblongis vel lanceolatis acutis argute serratis, floribus coætaneis solitariis maximis, carpellis sub-20 polyspermis.

Dillenia speciosa, *Thunb. in Trans. of Linn. Soc. v.* 1.*p.* 200. *Sm. Exot. Bot. v.* 1. *p.* 3. *f.* 2, 3. *Roxb. Fl. Ind. v.* 2. *p.* 650. *De Cand. Syst. Veget. v.* 1. *p.* 435; *Prodr. v.* 1. *p.* 76. *Wall. Cat. n.* 943 *(excl. C.). Wight et Arn. Prodr. v.* 1. *p.* 5. *Wight, Ic. t.* 823. *Hook. et Thoms. Fl. Ind. p.* 69.

Dillenia elliptica, *Thunb. in Trans. Linn. Soc. v.* 1. *p.* 200. *De Cand. Prodr. v.* 1. *p.* 76.

Dillenia Indica. *Linn. Sp. Pl. p.* 745.

Syalita. *Rheede, Hort. Malab. v.* 3. *p.* 39. *t.* 38 *et* 39.

This is certainly among the handsomest of Indian trees, whether we consider the beauty of the foliage or the size and structure of the flowers, which latter remind one of the finest of the Magnolia kind. It was indeed introduced into our stoves in England at the very commencement of the present century, when Lady Amelia Hume received a healthy plant from Dr. Roxburgh,

* "*Dillenia*, in Botany, a magnificent East Indian genus of plants, named by Linnæus in honour of John James Dillenius, the first Sherardian Professor at Oxford, because, as he himself says in his 'Critica Botanica,' p. 80, it is of all plants the most distinguished for the beauty of its flower and fruit, like Dillenius among Botanists."—*Sir J. E. Smith.*

and the plant is now far from uncommon among us, but no instance has been known of its flowering in Europe, till August of the present year, when Mr. Osborne, of the Fulham Nursery, sent to us an excellent flowering specimen, not two feet high, in a small pot. In fact it was a cutting recently struck, and it is more than probable that the check given to the more rapid development of foliage encouraged it to flower. Indeed it must have struck many cultivators, as it has done us, how many plants come into good flower soon after having been received from abroad, and then seldom or never flower again. May it not be that the nearly uniform degree of close heat at which we keep our stove-plants is calculated to hinder the flowering? There are few plants in their native soils which have not a period of rest, occasioned sometimes by cold, sometimes by heat and drought,—in either case contributing to the health and well-being of the plant.

Drs. Hooker and Thomson describe this tree as inhabiting thick woods throughout the whole of tropical India, from Malabar and Ceylon on the west, to Ava and the Malay Islands, often cultivated too on account of its beauty. The agreeable-looking fruit, about the size and with somewhat the appearance of an apple, is eatable, though very acid, and, as Rheede informs us, "requires sugar, broth, or some other addition to make it palatable." Roxburgh tells us that it makes a tolerably pleasant jelly, and that the wood of the tree is both hard and tough and used for gun-stocks.

Descr. *Trunk*, in its native country, stout, but of no great height. *Branches* numerous, spreading, then ascending. *Leaves* very much confined to the extremities, on short, broad, channelled and sheathing petioles, the blade six to eight inches to a foot long, oblong or oblong-lanceolate, attenuate at the base, rather suddenly acuminated at the extremity, the margin very strongly serrated, penniveined, the veins or ribs copious, oblique, close and parallel, simple, stout, straight, each terminating at the points of the serratures. *Peduncle* solitary among the terminal leaves, slightly curved so as to bring the very large flower (of which the diameter is six inches) into an oblique position. *Calyx* of five, very large, concave, pale green, thick and fleshy sepals, thin and membranous at the edge, enlarging with the fruit which they permanently enclose. *Petals* full three inches long, obovato-cuneate, white, concave in the upper portion, obscurely veined and slightly waved. *Stamens* numerous, forming a dense compact mass around the pistil, which they entirely conceal except the stigmas, or, as Roxburgh expresses it, "forming a large yellow globe in the centre, which is elegantly crowned with the white, lanceolate, spreading rays of the stigma." *Filaments* short, white: *anthers* linear, yellow, opening by two pores at the extre-

mity. *Ovaries* fifteen to twenty, linear, united into a large, ovate, cone-shaped mass, with a central fleshy portion: each one-celled, many-seeded. *Ovules* minute, attached to a long receptacle in the axis of the ovary. *Styles* as many as ovaries, linear-lanceolate, white, spreading in a radiating manner. *Fruit* compound, consisting of the "numerous, subreniform *capsules*, attached to the fleshy central mass, and containing a pellucid, glutinous liquid, which surrounds the seeds."

Fig. 1. Stamen. 2. Transverse section of the ovaries which surround the central mass, *magnified*. 3. Combined ovaries with their radiating stigmas:—*nat. size.*



W. Fitch del et lith.

Vincent Brooks Imp.

Tab. 5017.

SALVIA Candelabrum.

Lustre Sage.

Nat. Ord. Labiatæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4874.)

Salvia (§ Eusphace) *Candelabrum ;* caule basi fruticoso villoso folioso, foliis integris petiolatis oblongis rugosis utrinque villosis et subtus canescenti-tomentosis, panicula elongata laxa, verticillastris remotis, cymis utrinque pedunculatis laxe 3–5-floris, calycibus pedicellatis campanulatis subbilabiatim 5-dentatis viscoso-pubescentibus. *Benth.*

Salvia Candelabrum. *Boiss. Elench. p.* 72. *n.* 156. *Voy. en Espagne, p.* 480. *t.* 136. *Benth. in De Cand. v.* 12. *p.* 263. *Walp. Repert. Bot. v.* 3. *p.* 601.

There may be species of *Salvia* with more gaudy-coloured flowers in Mexico, but none perhaps of all the 400 kinds described by Bentham is more beautiful (variegated or marbled, if I may so say, in their corollas with rich purple and white) than the one here represented, a native of the south of Spain, growing in mountain regions among Cistuses, and at the margins of vineyards on the Sierra de la Nieve above Yunquera, elev. 2500 to 3000 feet above the level of the sea. It there bears the name of *Selima basta*. It was discovered (and described and figured) by Boissier, who remarks of it: "This magnificent species, which may be cultivated for its beauty, forms, in the section of the '*Eusphace*,' a small group along with *S. divaricata* of Montbret and Aucher, and *S. Aucheri*, Bentham, both of them orientals species, and which it resembles in the habit and in inflorescence." From these however it is readily distinguished. The specific name suggested itself to the author in consequence of the regular form of the panicle and its trichotomous branches. It exhales a very powerful aromatic odour. Our plant was received from Mr. Thompson, of Ipswich. With us it proves a hardy suffruticose plant, flowering in July.

Descr. *Stems* square, erect, hoary, shrubby and branched below, very leafy, attaining, with the panicle, a height of three

to four feet. *Leaves* oblong-lanceolate, rather obtuse, three to four inches long, crenulate, very closely rugose, hairy and glanduloso-punctate. *Petiole* one inch long, channelled above. *Panicle* terminal, erect; the *branches* decussately opposite, patent, each bearing a *cyme* of several, large, spreading *flowers* *Bracteas* small, linear, at the setting-on of each ramification. *Calyx* sharply ribbed, two-lipped, five-toothed, beset with crystalline *glands*, green, tinged with purple. *Corolla* thrice as long as the calyx, externally hairy, white, and striated with pale purple. *Tube* enlarged upwards. *Upper lip* white, much and laterally compressed, straight, broader upwards. *Lower lip* deep and rich violet, variegated and streaked with white at the faux, three-lobed; lateral lobes reflexed; middle one large, pendent, bifid, the *lobes* subquadrate. Branching *filament* of the *stamen* or *connectivum* with the lower branch obtuse. *Style* bifid.

Fig. 1. Stamen, showing the nature of its connectivum, *magnified*.

W. Fitch del et lith

Vincent Brooks Imp.

Tab. 5018.

CODONOPSIS ROTUNDIFOLIA; var. *grandiflora*.

Round-leaved Codonopsis; large-flowered var.

Nat. Ord. Campanulaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4942.)

Codonopsis *rotundifolia*; pilosula, caule volubili, foliis plerisque oppositis petiolatis ovatis subrotundatisve crenato-serratis, pedunculis terminalibus axillaribusque solitariis unifloris petiolo multo longioribus, calycis tubo hemisphærico sulcato lobis late oblongo-ovatis foliaceis obtusis subdentatis patentibus tubo multo longioribus, corolla lobis calycinis sublongiore ventricoso campanulato, limbi lobis triangularibus patentibus, capsula basi rotundata.

Codonopsis rotundifolia. *Benth. in Royle Illustr. Bot. Himal. p.* 254. *t.* 62. *Hook. Bot. Mag. t.* 4942. *Hook. fil. et Thoms. Præcurs. ad Fl. Ind. in Journ. of Proceed. of Linn. Soc. v.* 2. *p.* 14.

Wahlenbergia (§ Megasanthes) rotundifolia. *De Cand. Prod. v.* 7. *p.* 425.

β. foliis sæpissime alternis floribusque majoribus, corolla intus purpureo irrorata. (Tab. Nostr. 5018.)

Raised from Himalayan seeds in the Royal Gardens of Kew, where the flowering specimens from which the figure is taken were produced in July 1857. Certainly the larger, more generally alternate leaves, the larger flowers, and the different colour and markings, in the inside especially, at the mouth of the corolla, led to the suspicion that it would prove a new species; but a more full examination has brought us to the opposite conclusion, and proved that it can only be considered a variety of the *Codonopsis rotundifolia*, Tab. Nostr. 4942; and as such we here figure it, referring to that Plate for the further characteristics of the species. The present is the more ornamental of the two; the colour of the corolla being more variegated. In shape and in the spreading calyx, these flowers very much resemble those of the Deadly Nightshade, *Atropa Belladonna*.

Fig. 1. Receptacle of the flower, stamens, and pistil:—*magnified*.



W Fitch. del. et lith.

Vincent Brooks Imp

Tab. 5019.

LUPINUS Menziesii.

Mr. Menzies' Lupine.

Nat. Ord. Leguminosæ.—Diadelphia Decandria.

Gen. Char. Calyx sæpe bracteolatus, profunde bilabiatus, sepalis in utroque labio plus minus coalitis. *Corolla* papilionacea; *vexillo* lateribus reflexis; *alis* antice infra medium externe foveolato-plicatis, postice superne conglutinatis; *carina* acuminata, genitalia includente: *petalis* (ejus) basi liberis. *Stamina* monadelpha, vagina integra; *antheris* sepalis oppositis oblongis, præcocioribus; *petalis* oppositis, subreniformibus, senioribus. *Stigma* barbatum. *Legumen* coriaceum, fere oblongum, compressum, teretiusculum, torulosum, intus isthmis cellulosis interceptum. *Cotyledones* crassæ, stomatibus ornatæ. *Agardh.*

Lupinus *Menziesii;* (perennis?), floribus in spica longissima verticillatis pedicellatis, pedicellis bracteas subsetaceas persistentes subæquantibus, calycis ebracteolati labiis integris, superiore scarioso, inferiore herbaceo duplo longiore. *Agardh.*

Lupinus Menziesii. *Ag. Syn. Gen. Lup. p.* 2. *Hook. et Arn. Bot. of Beech. Voy. Suppl. p.* 335. *Torrey et Gray, Fl. N. Am. v.* 1. *p.* 371. (*An* L. densiflorus, *Benth.?*)

This is a Californian, somewhat shrubby Lupine, sent to the Royal Gardens by Mr. Thomson, of Ipswich, as a species unknown to him. I am therefore alone responsible for the name here given; and I should have the more confidence in the correctness of this appellation (and the more so as Agardh says the flowers are yellow, a colour far from common among the North American species) were it not for the observation of the excellent Dr. Torrey, 'Botany of Captain Whipple's Expedition,' viz. that "*Lupinus densiflorus*, Benth." (an older name), "and *L. Menziesii*, Agardh, cannot be kept distinct: both have white flowers;" and he considers that Agardh was under a mistake in pronouncing (from the dried specimens) that they were yellow. This view respecting the colour of *L. Menziesii* seems to be confirmed by Mr. Bentham, judging from an observation in 'Plantæ Hartwegianæ,' p. 303: "Planta Douglasiana quam sub nomine *L. densiflori* olim descripsi est *L. Menziesii*, Ag.;" and this *L. densiflorus*,

Benth. (Bot. Reg. t. 1689), has white flowers delicately stained with pink. The plant now before us, I am ready to allow, has all the essential characters of *L. densiflorus*, but its flowers are quite yellow when fully expanded, even inclining to orange, a colour one would think very little likely to vary to white tinged with rose. Future observations may determine this point. Among my dried native specimens in the herbarium, I may say,—1, that Dr. Torrey's "*L. densiflorus* = *L. Menziesii*," above alluded to, clearly an annual, is a larger and more straggling plant than ours, with larger and clearly white flowers; 2, I possess from Dr. Torrey what is probably the same species (without name) from Fremont's Expedition in 1846, n. 473, equally straggling, and the flowers look as if they might have been yellow; 3, a specimen from Douglas, apparently perennial, probably the same as Agardh described from, seems identical in habit and structure, and *apparently* in colour of the flowers; 4, Coulter's n. 381, which Mr. Bentham, in 'Plantæ Hartwegianæ,' *l. c.*, refers to *L. Menziesii*, quite the same as ours, but colour of the flowers doubtful.

Fig. 1. Flower, *magnified*.


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Tab. 5020.

EICHORNIA tricolor.

Three-coloured Eichornia.

Nat. Ord. Pontederiaceæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum infundibuliforme, persistens; *tubo* subincurvo; *limbi* sexfidi laciniis bilabiato-ringentibus, interioribus latioribus. *Stamina* 6, tria superiora tubo inclusa, tria inferiora longiora, plus minus exserta; *filamenta* filiformia, incurva; *antheræ* oblongæ, basi bilobæ, biloculares. *Ovarium* oblongum, triloculare. *Ovula* anatropa, plurima. *Stylus* elongatus, filiformis. *Stigma* capitatum. *Capsula* stylo persistente coronata, membranacea, trilocularis, polysperma, loculicide trivalvis, *valvis* medio septiferis. *Semina* plurima, *placentis* in loculorum angulo centrali decurrentibus insidentia, erecta vel horizontalia, oblonga; *testa* longitudinaliter costata; *hilo* basilari; *chalaza* terminali.—Herbæ *aquaticæ, perennes, acaules vel sæpius caulescentes.* Folia *plerumque petiolata;* petiolis *vaginantibus.* Inflorescentia *spicata vel paniculata*, pedunculo *e folii vagina lateraliter prodeunte, rarius radicali suffulta, basi spatha uni-bivalvi munita.* Flores *sessiles, ebracteati.* Perigonium *speciosum, extus glandulosum, cæruleo violaceoque variegatum, lacinia superiore media cæteris latiore, macula disci flava picta, limbus post anthesin spiraliter convolutus, tubus capsulam stipans hinc fissus. Mart.*

Eichornia *tricolor;* foliis late cordato-ovatis acuminatis, panicula erecta laxa multiflora folium caulinum superante, spatha lineari-lanceolata. *Mart.*

Eichornia tricolor. *Seub. MS. in Herb. Mart. Martius, Fl. Brasil. Ponteder. p.* 92. *t.* xi.

Pontederia tricolor. *Mart. MS.*

? Pontederia paniculata. *Spreng. Neue Entdeck. v.* 3. *p.* 18; *id. Syst. Veget. v.* 2. *p.* 42 *Rœm. et Schultes, Syst. Veget. v.* 7. *p.* 1144. *Kunth, Enum. Pl. v.* 4. *p.* 127. (*Martius.*)

Eichornia is a genus of South American, especially Brazilian, aquatics, separated by Kunth from *Pontederia*, and of which our *Pontederia azurea*, Bot. Mag. t. 2932 (now *Eichornia speciosa*), is a very interesting representative, partly owing to the size and beauty of the flowers, and partly from its floating habit and the power of buoyancy in consequence of the swollen leaf-stalks filled with air-cells. The blossoming of that plant is however of very rare occurrence; whereas our present species (for the introduction of which we are indebted to James Wetheral, Esq., late of

Bahia) bears its pretty party-coloured flowers readily and during most of the summer months. The plant is cultivated in a pot, and plunged into a tank of water in the stove.

Descr. *Root* an oblong *rhizome*, sending down copious fibres. *Stems*, often several from the same root, a foot to a foot and a half high in our strongest specimens, erect, terete, soft and herbaceous, sheathed below with the membranaceous and stipulate bases of the radical leaves, and a few long, leafless scales, terminating in the panicle of flowers, at the base of which is a solitary cauline leaf on a short, sheathing *petiole*. *Radical leaves* on long *petioles*, all cordate and acuminate, entire, striated; the sinus at the base deep and narrow. *Panicle* (or rather compound spike) of from ten to twelve or more flowers. *Perianth* petaloid, two-lipped; lower lip of three purple segments; upper and smaller of three blue ones, with a two-lobed white spot in the centre, yellowish in the disc. *Stamens* three large and three smaller ones, the latter lower down in the tube, quite included, the former exserted; *filaments* piloso-glandulose, as is the rather long *style*.

Fig. 1. Flower laid open. 2. One of the superior stamens. 3. Inferior one. 4. Pistil:—*magnified*.

5021.



W Fitch del et lith

Vincent Brooks Imp

Tab. 5021.

BEGONIA laciniata.

Cut-leaved Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *laciniata;* caule ramoso petiolis pedunculis pedicellisque pubescenti-hirsutis, foliis oblique cordatis laciniato-pinnatifidis pictis, laciniis acuminatis acute serratis, floribus masculis tetrasepalis, sepalis patentibus duobus multo majoribus extus rubro-tomentosis, fœmineis pentasepalis, sepalis erectis omnibus extus rufo-tomentosis, capsula hispido-tomentosa alis 2 minoribus æqualibus unica ovata obtusa.

Begonia laciniata. *Roxb. Fl. Ind. v.* 3. *p.* 649. *Wall. Cat. n.* 3678.

For seeds of this truly ornamental *Begonia*, we are indebted to Dr. Royle, of the India House. Dr. Roxburgh gives it as a native of the Garrow Hills, in Eastern Bengal, Dr. Wallich of Silhet and Nepal. The first of these authors speaks of it as biennial: be that as it may, it is readily increased by cuttings, and young plants flower better and take a better form than the old and straggling ones. The flowers, especially the staminiferous ones, are among the largest of the genus, and very striking from the almost bright-red tomentum on the white ground of the sepals. The foliage, in the living plant, is beautifully variegated, a circumstance not noticed by Dr. Roxburgh, perhaps because he made his description from dried specimens, where this character would, in a measure at least, disappear. We do not find that our friend Dr. Klotzsch has introduced the species into his 'Genera and Species of Begonia,' though published by Dr. Roxburgh in 1830.

Descr. *Plant* at first erect, then becoming more or less straggling, one to two feet high. *Stem* and *branches* green, stout, terete, downy. *Leaves* petiolate, five to six inches long, obliquely cordate, acuminate, laciniated or rather pinnatifid (but not very deeply), glabrous, dark-green above, the margin and

centre black-purple, the under side pale-green, margined with red, and the centre and veins are red; laciniæ acuminated and sharply serrated. *Petiole* green, about as long as the leaf, woolly, subtended at the base by two membranaceous *stipules*, which are rather large, white, tinged with rose. *Peduncles* axillary, scarcely longer than the leaves, bearing an *umbel* of three or four large *flowers*. *Male flower* the largest, of four, white, spreading, oval *sepals*, two small and glabrous on both sides, two outer more than twice as large, concave, clothed externally with red tomentum mixed with hairs. *Stamens* numerous, forming a dense capitulum. *Female flower*:—*Sepals* five, erect, broad, oval, concave, uniform, externally tomentose and hairy. *Capsule* very tomentose, three-angled: two angles short and narrow; one large, oval, very obtuse.

Fig. 1. Female flower. 2. Immature fruit:—*magnified.*

Tab. 5022.

ILLAIREA canarinoides.

Canarina-like Illairea.

Nat. Ord. Loaseæ.—Icosandria Polyandria.

Gen. Char. Calyx 5-sepalus, sepalis horizontaliter patentibus v. reflexis, triangulari-lanceolatis, inciso-serratis. *Petala* 5, sepalis alterna, in corollam campanulatam approximata, ovato-oblonga, basi obtusissime subsaccata, apice acuminata, dorso nervo medio elevato anguste carinata. *Nectarii squamæ* 5, petalis alternæ, dimidiato-cymbiformes, curvatæ, carnosæ, dorso filamentis 2 setæformibus appendiculatæ. *Staminodia* ante squamas singulas 2, filamentiformia, annulo epigyno insidentia, basi compressa, calcarata, petalis paululum breviora. *Stamina* fertilia in fasciculos 5, staminodiis et squamis alternos congesta, numerosa; *filamenta* filiformia; *antheræ* ovatæ, basifixæ, connectivo obsoleto. *Corpuscula hemisphærica* 5, staminum fasciculis alterna, styli columnaris basin circumdantia. *Germen* inferum turbinatum, costis spiralibus instructum.—Herbæ *Americæ tropicæ, scandentes, habitu* Loasæ; foliis *alternis et oppositis, exstipulatis, lobatis seu pinnatifidis, piloso-prurientibus;* pedunculis *axillaribus, solitariis, unifloris. Planch.*

Illairea *canarinoides.*

Illairea canarinoides. "*Lemé et Koch, in litt.*" *Planch. in Flore des Serres, v. 9. p. 145, cum ic. pict.*

This is certainly a very remarkable and striking plant, though the flowers are wanting in richness of colour. It is a native of Central America, according to M. Planchon, where it was discovered, and was introduced to Europe by Warszewicz. Here it proves a hardy annual, climbing to a great length, and needing the support of tall stakes, producing copiously its great Canarina-like, dull, brick-coloured flowers. Mr. Van Houtte recommends it for trellis-work; but it is a very dangerous neighbour, one of the men of the Kew Gardens having suffered severely (and for some weeks) from being accidentally stung by it. It flowers during all the warm months of summer.

Descr. *Root* perennial? *Stems* long, twining, branched, herbaceous, ten to twelve and more feet long, everywhere, especially on the branches, clothed with stinging hairs. *Leaves* opposite, on rather long stalks, cordate or cordato-oblong or fiddle-

shaped, pinnatifid and dentate, deeply and reticulately veined. *Peduncles* solitary, opposite, axillary, erect, curved at the apex, so that the large *flower* is gracefully drooping. *Calyx* of five, patenti-reflexed, subtriangular, coarsely-serrated *sepals*. *Petals* erect or moderately spreading, ovate, shortly acuminate, gibbous at the base, tricarinate, and reticulately veined. *Organs of fructification* as described in the generic character.

Fig. 1. Portion of the stamens, nectariferous scales, and staminodia. 2. Nectariferous scales. 3. One of the staminodia. 4. Style and epigynous glands which surround it:—*magnified*.



W. Fitch del et lith.

Vincent Brooks Imp.

Tab. 5023.

RUBUS nutans.

Shaggy-stemmed Raspberry.

Nat. Ord. Rosaceæ.—Icosandria Polygynia.

Gen. Char. (*Vide supra*, Tab. 4678.)

Rubus *nutans ;* inermis basi fruticosus procumbens ramosus, ramis subherbaceis petiolis costa subtus pedunculis calycibusque patenti-crinitis, foliis ternatis glabris, foliolis late ovatis lobatis serratis, stipulis magnis ovatis concavis apice incisis, pedunculis unifloris, calycis lobis ovatis longe acuminatis, antheris apice appendiculatis.

Rubus nutans. *Wall. Cat. n.* 738. *Edgew. Pl. of N. W. Ind. in Linn. Trans. v.* 20. *p.* 45. *Walp. Ann. Bot. Syst. v.* 1. *p.* 276.

This very pretty decumbent species of Raspberry we find flourishing, planted in peat-earth in an open border, near a piece of water, at the residence of William Borrer, Esq., Henfield, (who received it from Mr. Lowe, of the Clapton Nursery,) covering the ground like ivy with its glossy perennial leaves, bearing pure white flowers, among the largest of the genus, and these white flowers are well relieved by the blood-coloured under side of the calyx. It is a native of Himalaya, from Garwhal and Kamaon in the west to Sikkim in the east (Dr. Hooker), at elevations of from 8,000 to 11,000 feet. How or when it was introduced, we have no information. The habit is a good deal that of our *R. saxatilis*, herbaceous branches arising from the old trailing wood; but here are no aculei, and all the branches and petioles are densely covered with long, purple, crinite setæ. In Western Himalaya the plant is called *Ishal ;* "fructus sapore optimus." (*Edgeworth.*)

Descr. A small, much-branching, quite unarmed *shrub*, two to three feet long, decumbent, the old wood glabrous, the younger shoots green, terete, ascending, bearing the leaves and flowers, and, as well as the petioles, principal nerves of the leaf be-

neath, peduncles, and calyces, hispid with copious, spreading, long, soft, villous setæ, often of a rich purple tint, mixed with short white hairs. *Leaves* petiolate, trifoliolate, glabrous, shining, lateral ones obliquely ovate, terminal one larger, broadly obovate or rhomboid, all strongly veined, lobed (not very deeply), and strongly serrated at the margin, dark green above, much paler beneath; *petiolules* short, hispid. *Stipules* large, submembranaceous, oval or oblong, often incised at the apex. *Peduncles* single-flowered, generally solitary, but sometimes two or three together, and then terminal. *Flowers* large, handsome, very like a small white rose. *Calyx* (in bud globoso-acuminate) of five, ovate, very much acuminated *sepals*, longer than the corolla, united into a cup at the base, externally rich purple, densely villous or hispid with long, soft, patent, purple setæ, the apices green, and often slightly pinnatifid and subfoliaceous. *Petals* subrotund, white, very spreading. *Stamens* numerous. *Filaments* erect, or only slightly patent, filiform. *Anthers* oval, yellow, terminated by a large, globose, pedicellated gland or appendage. *Ovaries* several, obliquely ovate, glabrous. *Style* as long as the filaments of the stamens. *Stigma* expanded, concave, villous at the margin. *Fruit*, in the dried specimens, scarcely pulpy.

Fig. 1. Stamen. 2. Pistil:—*magnified.*

5024.



1.

2.

3.

W. Fitch del. et lith.

Vincent Brooks Imp.

Tab. 5024.

CYPRIPEDIUM Fairieanum.

Mr. Fairie's Lady's Slipper.

Nat. Ord. Orchidaceæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 4901.)

Cypripedium *Fairieanum;* foliis loriformibus concoloribus apice obliquis apiculatis, scapo piloso, bractea brevi pallida apiculata, ovario glanduloso-piloso, sepalis glanduloso-pilosis dorsali erecto subrotundo apice recurvo antico breviore concavo oblongo obtusissimo, petalis lanceolatis obtusis decurvis reflexis margine crispis et basi intus fimbriatis, labello sepalo antico duplo longiore glabro oblongo basi convoluto, stamine sterili lunato, proboscideo piloso margine antico utrinque unidentato. *Lindl.*

Cypripedium Fairieanum. *Lindl. in Gard. Chron.* 1857, *p.* 740 *c.*

Of this charming plant we have received specimens from Mr. Myland, the able gardener to Mr. Reid, of Burnham, Somersetshire, and from which our drawing was taken; and we have since had a flowering plant sent by Mr. Parker, of the Hornsey Nursery. In both cases the plants were, we believe, obtained at a sale of East Indian Orchids, at Stevens's Rooms, of a collection sent from Assam. The same plant has been exhibited lately at the Exhibition of the Horticultural Society, in Willis's Rooms, by Mr. Fairie of Liverpool, and from which Dr. Lindley drew up his description above quoted. "It is," says Dr. Lindley, "an exquisitely beautiful species in the way of *Cypripedium insigne*, than which the flowers are much smaller. It seems nearest to *C. superbiens*, of Reichenbach, but is much smaller in every part, has no warts on the involute sides of the lip, is quite differently coloured, and has a long proboscis-like appendage arising from the middle of the concave side of the crescent-shaped sterile stamen." Our flowering specimens were received in October. The blossoms are certainly amongst the most exquisitely coloured and pencilled of any in this fine genus.

December 1st, 1857.

Descr. Stemless. *Leaves* rising directly from the root in a somewhat cæspitose manner, distichous or pointing two ways, oblong-strap-shaped, acute, whole-coloured, the bases carinate and equitant. *Scape* longer than the leaves, erect, terete, green, downy, single-flowered. *Flower* large, extremely beautiful, arising from a terminal, sheathing, acute, woolly *bract*, which embraces the lower part of the dark-purple, elongated, glandulosopilose, somewhat fusiform *ovary*. *Perianth* much spreading, dorsal or superior *sepal* very large, cordiform, pale greenish-white, beautifully veined with dark-purple, and partially streaked with darker green, the apex obtuse, recurved; two inferior sepals united into one small ovate obtuse *sepal*, pale, with streaks of green and purple, about one-third the size of the dorsal sepal. *Petals* oblong-lanceolate, peculiarly deflexed and curved, like the horns of a buffalo, white, streaked with green and purple. *Lip* very large, porrected, inflated, brownish-green, with purple reticulations, convolute at the base. *Sterile stamen* orbiculari-lunate, greenish, purple and white, downy; between the horns of the crescent is a downy proboscis, arising from the sterile stamen.

Fig. 1. Front view of the column. 2. Side view of ditto. 3. View of the under side of ditto, showing the stigma:—*magnified*.
